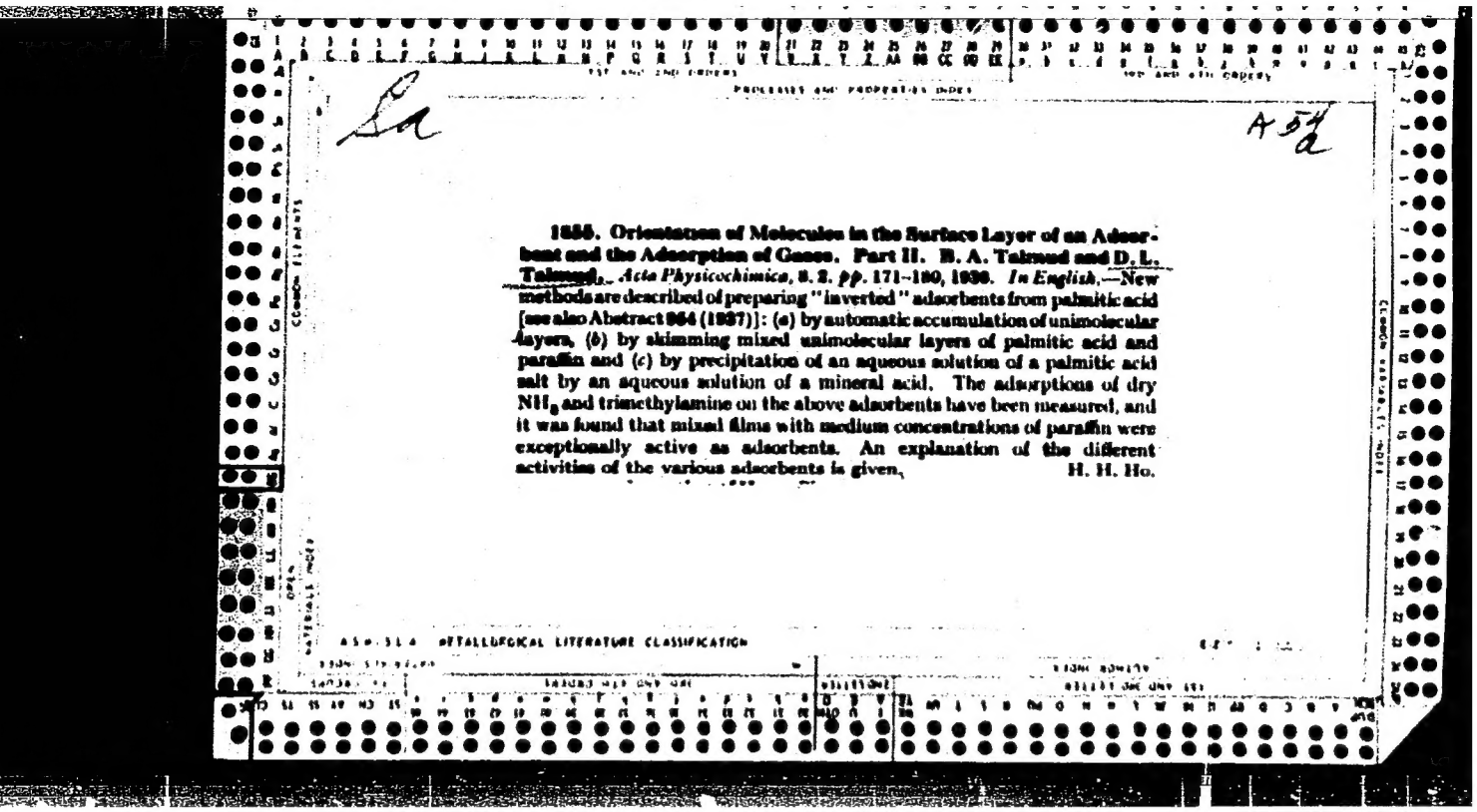
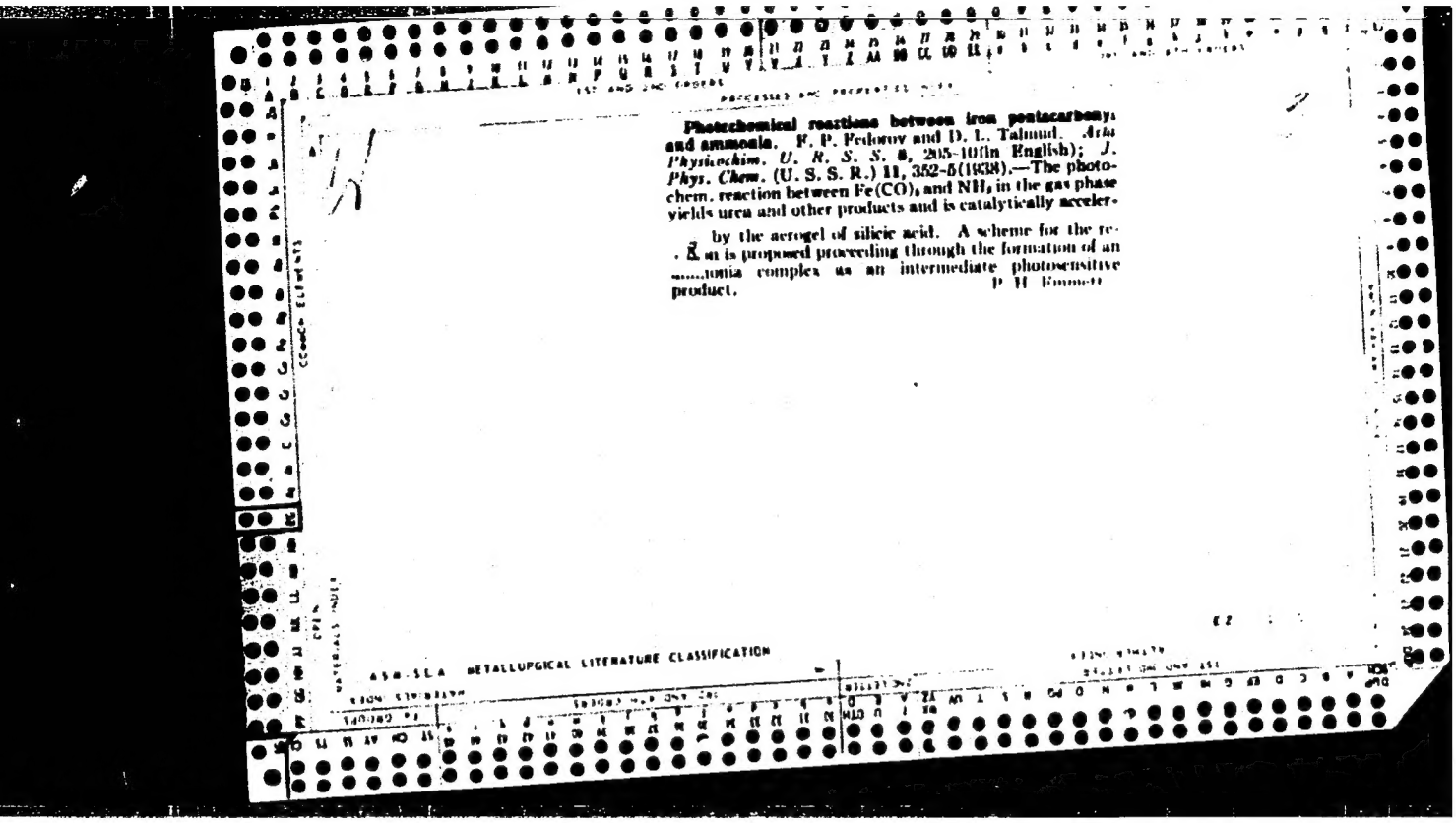
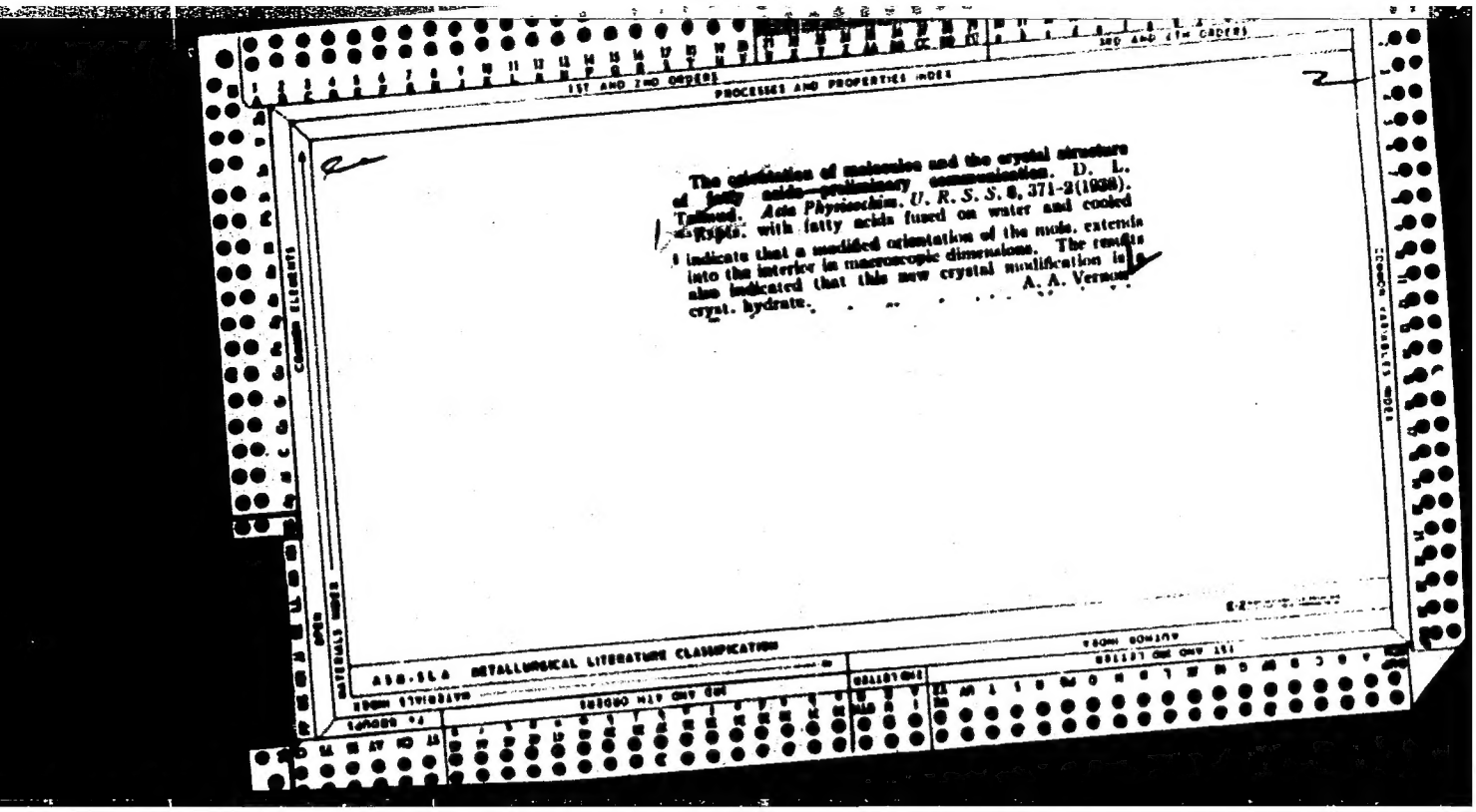


1855. **Orientation of Molecules in the Surface Layer of an Adsorbent and the Adsorption of Gases. Part II.** B. A. Talmud and D. L. Talmud. *Acta Physicochimica*, U. S. S. R., *pp.* 171–180, 1936. *In English.*—New methods are described of preparing "inverted" adsorbents from palmitic acid [see also Abstract 964 (1937)]: (*a*) by automatic accumulation of unimolecular layers, (*b*) by skimming mixed unimolecular layers of palmitic acid and paraffin and (*c*) by precipitation of an aqueous solution of a palmitic acid salt by an aqueous solution of a mineral acid. The adsorptions of dry NH_3 and trimethylamine on the above adsorbents have been measured, and it was found that mixed films with medium concentrations of paraffin were exceptionally active as adsorbents. An explanation of the different activities of the various adsorbents is given. H. H. Ho.



Photochemical reactions between iron pentacarbonyl and ammonia. F. P. Peleuov and D. L. Talmud. *Acta Physiochim. U. R. S. S.* **8**, 205–10(in English); *J. Phys. Chem.* (U. S. S. R.) **11**, 352–5(1938).—The photochem. reaction between $Fe(CO)_5$ and NH_3 in the gas phase yields urea and other products and is catalytically accelerated by the aerogel of silicic acid. A scheme for the reaction is proposed proceeding through the formation of an ammonia complex as an intermediate photosensitive product. P. H. Emmett

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

BC

A-1

Orientation of molecules and structure of fatty acid crystals. D. L. Talmud (J. Phys. Chem. Russ., 1938, 11, [illegible]–[illegible]).—When palmitic acid crystallises on a H_2O surface it forms hydrated crystals of ρ 1·1[illegible]. These crystals as well as the flakes pptd. by acid from NH_4 palmitate solutions adsorb NH_3, electrolytes, etc. more readily than charcoal. J. J. B.

COMMON ELEMENTS

COMMON VARIABLES INDEX

OPEN

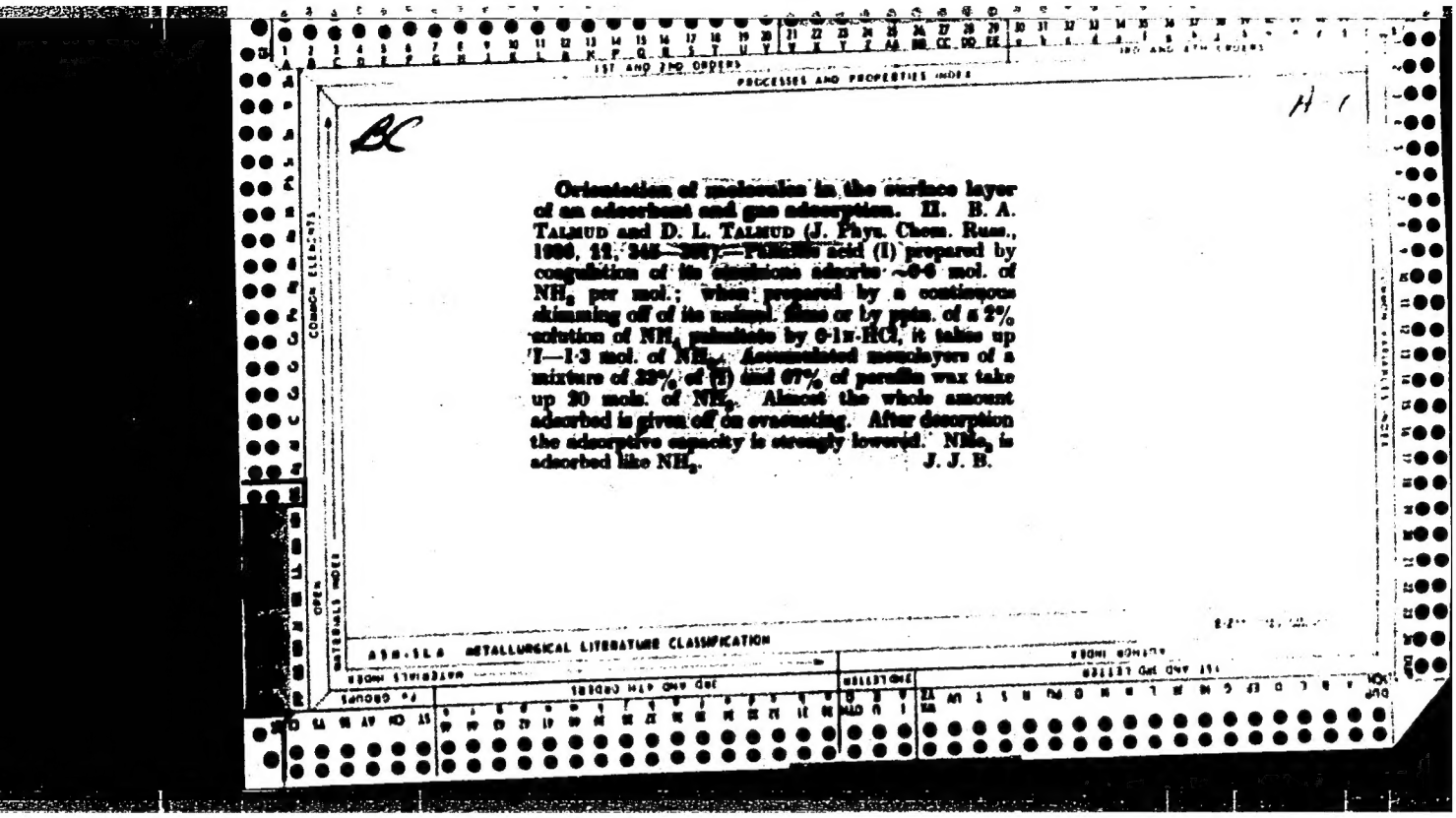
MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

1ST AND 2ND LETTER

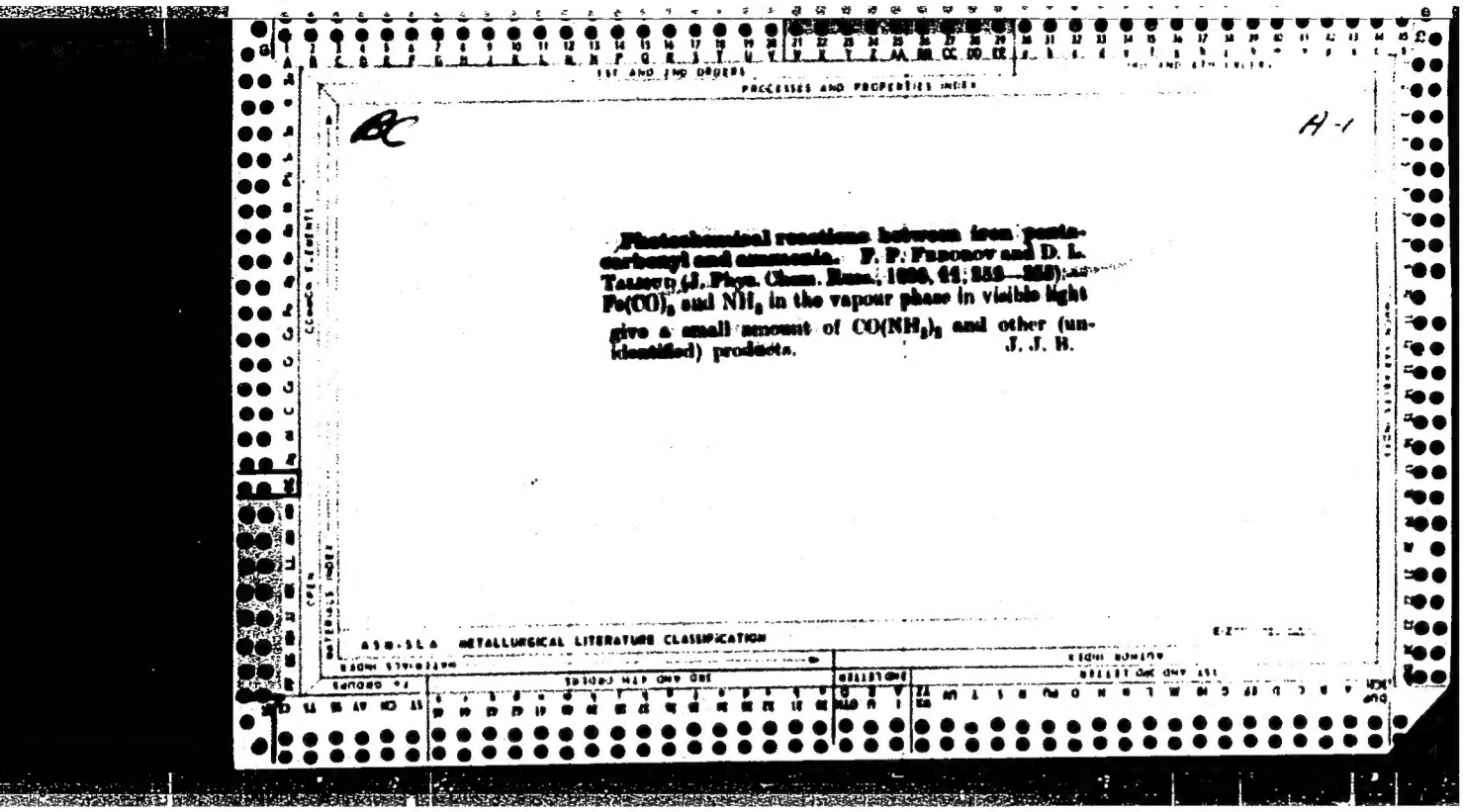
3RD AND 4TH ORDERS



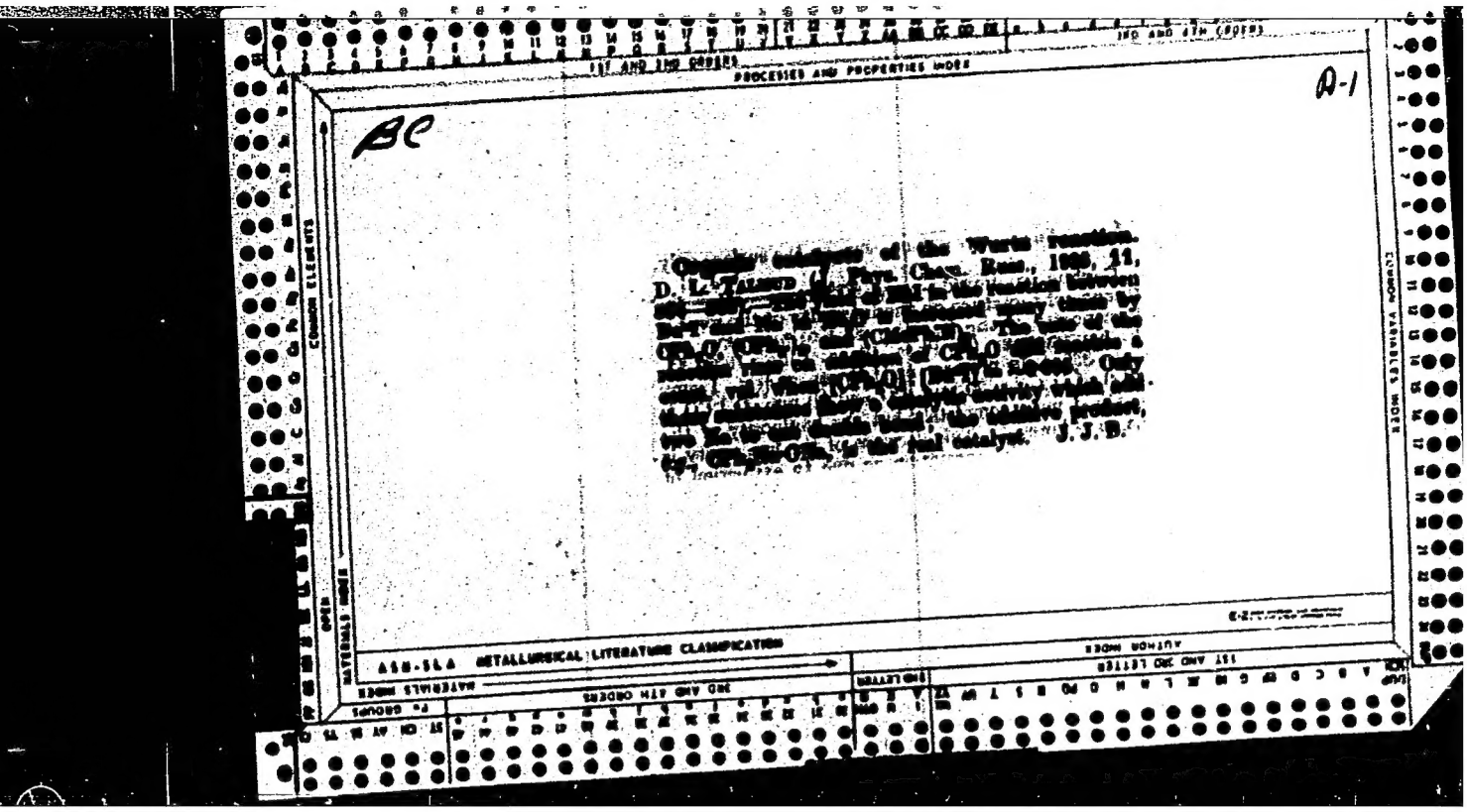
BC

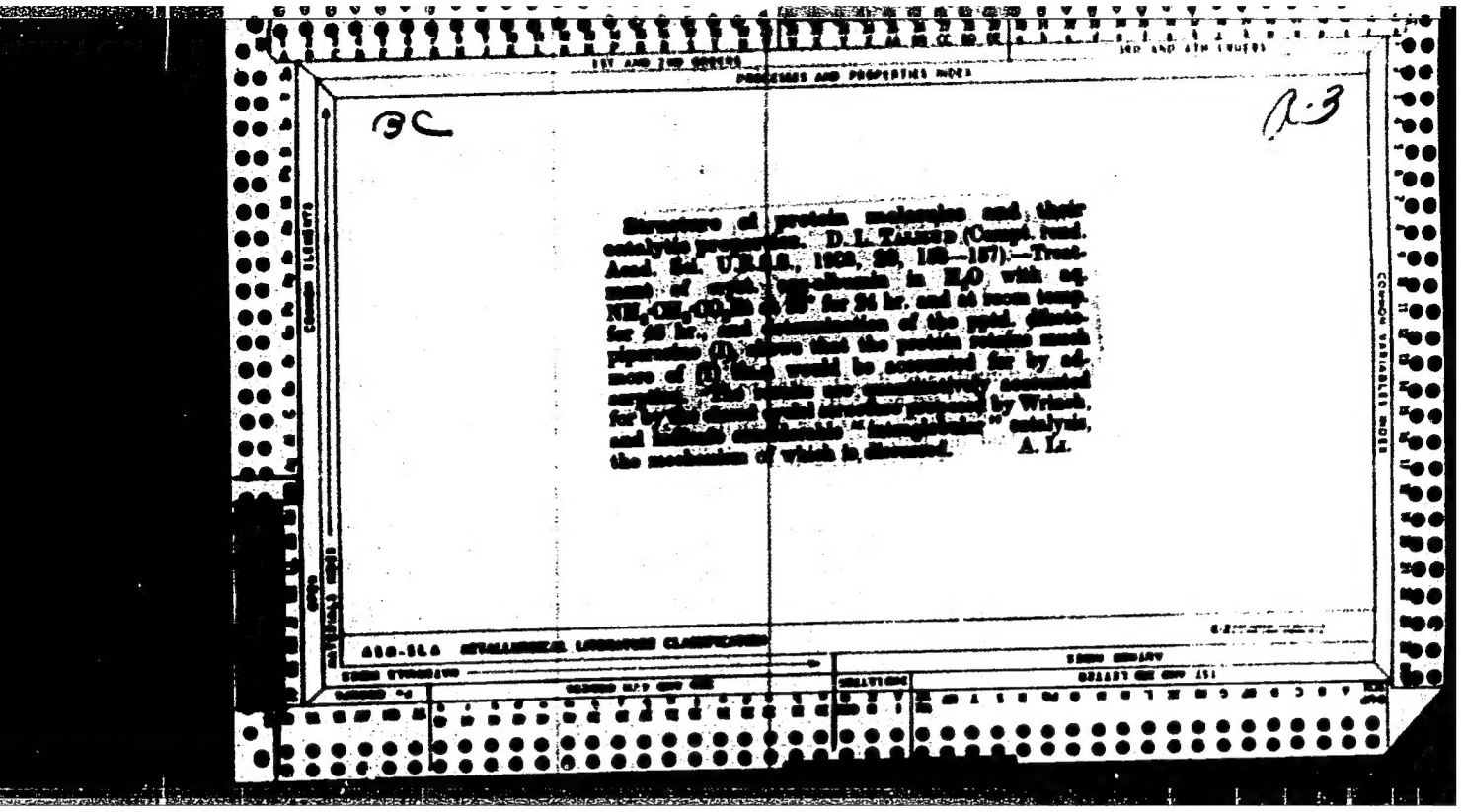
H-1

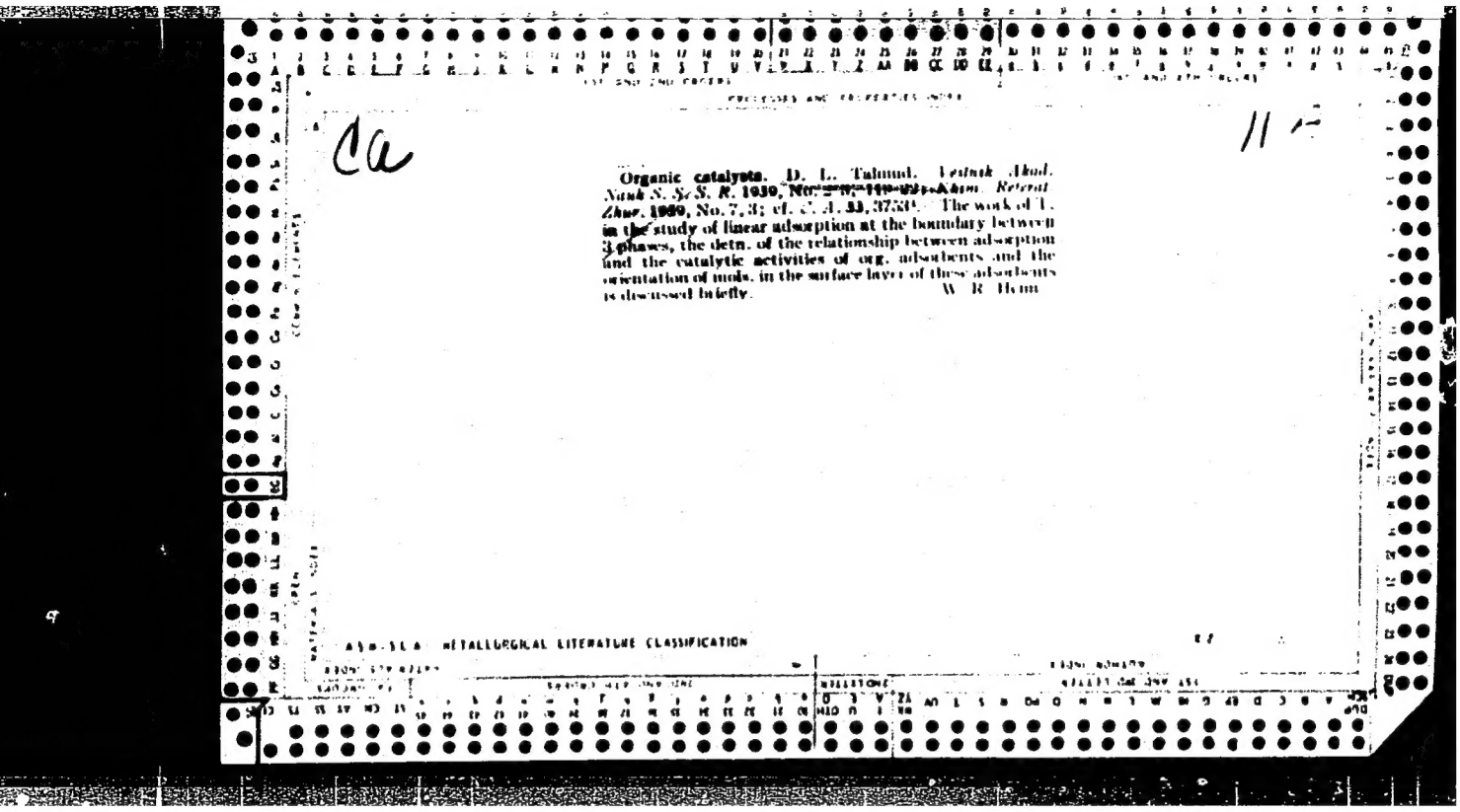
Orientation of molecules in the surface layer of an adsorbent and gas adsorption. II. B. A. Talmud and D. L. Talmud (J. Phys. Chem. Russ., 1938, 12, 345—357).—Pumice acid (I) prepared by coagulation of its aluminous adsorbs ~0·6 mol. of NH_3 per mol.; when prepared by a continuous skimming off of its unimpd. films or by pptn. of a 2% solution of NH_4 palmitate by 0·1N-HCl, it takes up 1—1·3 mol. of NH_3. Accumulated monolayers of a mixture of 23% of (I) and 77% of paraffin wax take up 20 mols. of NH_3. Almost the whole amount adsorbed is given off on evacuating. After desorption the adsorptive capacity is strongly lowered. NH_4Me_2 is adsorbed like NH_3. J. J. B.



Photochemical reactions between iron pentacarbonyl and ammonia. P. P. Pazonov and D. L. Tazarov (J. Phys. Chem. Russ., 1960, 34, 259—260). $Fe(CO)_5$ and NH_3 in the vapour phase in visible light give a small amount of $CO(NH_2)_2$ and other (unidentified) products. J. J. B.





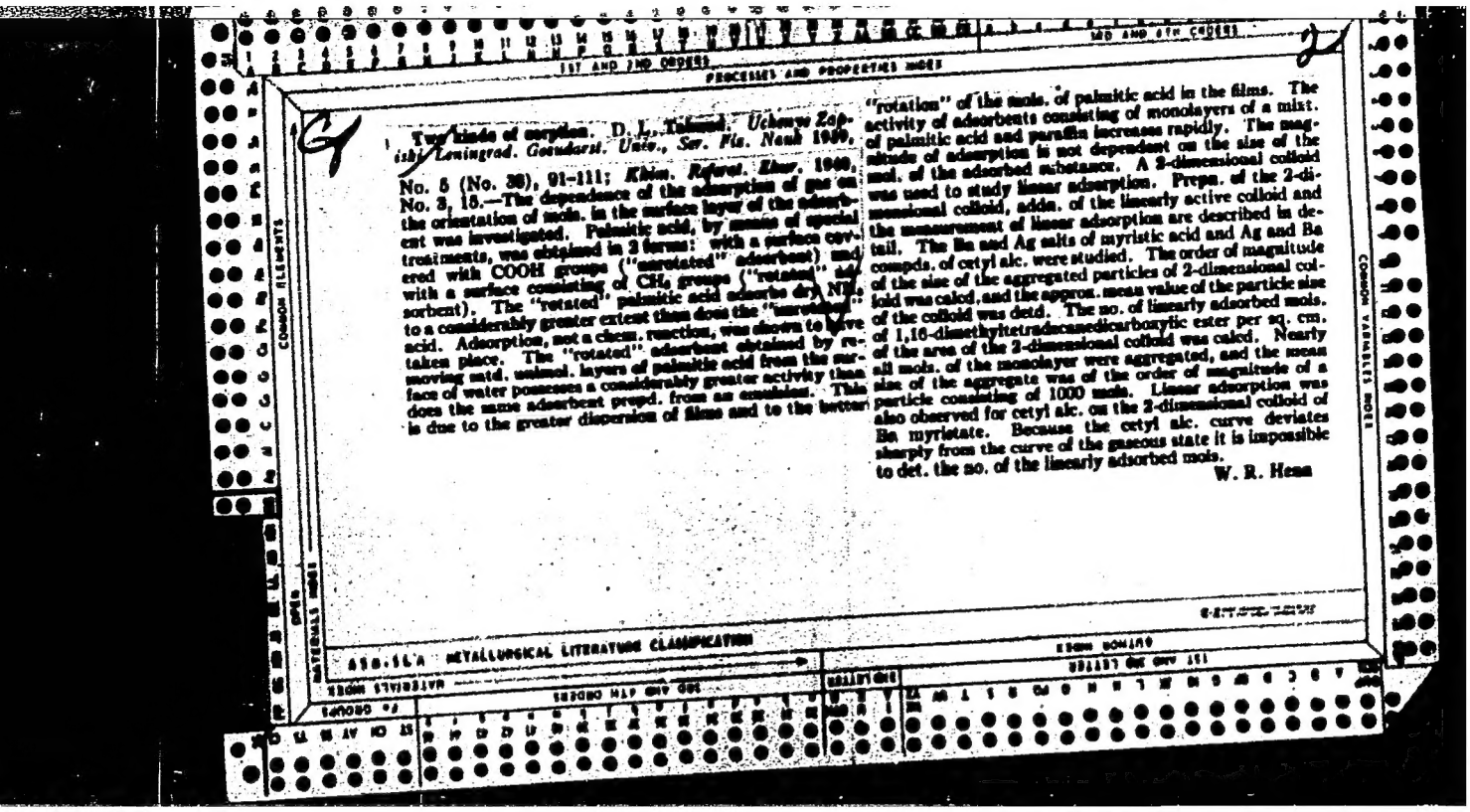


Ca

11

Organic catalysts. D. L. Talmud. *Izvestiya Akad. Nauk S. S. S. R.* 1939, No. 2, 149–61; *Khim. Referat. Zhur.* 1939, No. 7, 3; cf. C. A. 33, 3753[4]. The work of L. in the study of linear adsorption at the boundary between 3 phases, the detn. of the relationship between adsorption and the catalytic activities of org. adsorbents and the orientation of mols. in the surface layer of these adsorbents is discussed briefly. W. R. Horn

A 1 9 - 5 1 A METALLURGICAL LITERATURE CLASSIFICATION



Two kinds of sorption. D. L. Talmud. *Uchenye Zapiski Leningrad. Gosudarst. Univ., Ser. Fiz. Nauk* 1939, No. 5 (No. 38), 91-111; *Khim. Referat. Zhur.* 1940, No. 3, 15.—The dependence of the adsorption of gas on the orientation of mols. in the surface layer of the adsorbent was investigated. Palmitic acid, by means of special treatments, was obtained in 2 forms: with a surface covered with COOH groups ("unrotated" adsorbent) and with a surface consisting of CH_3 groups ("rotated" adsorbent). The "rotated" palmitic acid adsorbs dry NH_3 to a considerably greater extent than does the "unrotated" acid. Adsorption, not a chem. reaction, was shown to have taken place. The "rotated" adsorbent obtained by removing satd. unimol. layers of palmitic acid from the surface of water possesses a considerably greater activity than does the same adsorbent prepd. from an emulsion. This is due to the greater dispersion of films and to the better "rotation" of the mols. of palmitic acid in the films. The activity of adsorbents consisting of monolayers of a mixt. of palmitic acid and paraffin increases rapidly. The magnitude of adsorption is not dependent on the size of the mol. of the adsorbed substance. A 2-dimensional colloid was used to study linear adsorption. Prepn. of the 2-dimensional colloid, addn. of the linearly active colloid and the measurement of linear adsorption are described in detail. The Ba and Ag salts of myristic acid and Ag and Ba compds. of cetyl alc. were studied. The order of magnitude of the size of the aggregated particles of 2-dimensional colloid was calcd. and the approx. mean value of the particle size of the colloid was detd. The no. of linearly adsorbed mols. of 1,16-dimethyltetradecanedicarboxylic ester per sq. cm. of the area of the 2-dimensional colloid was calcd. Nearly all mols. of the monolayer were aggregated, and the mean size of the aggregate was of the order of magnitude of a particle consisting of 1000 mols. Linear adsorption was also observed for cetyl alc. on the 2-dimensional colloid of Ba myristate. Because the cetyl alc. curve deviates sharply from the curve of the gaseous state it is impossible to det. the no. of the linearly adsorbed mols.

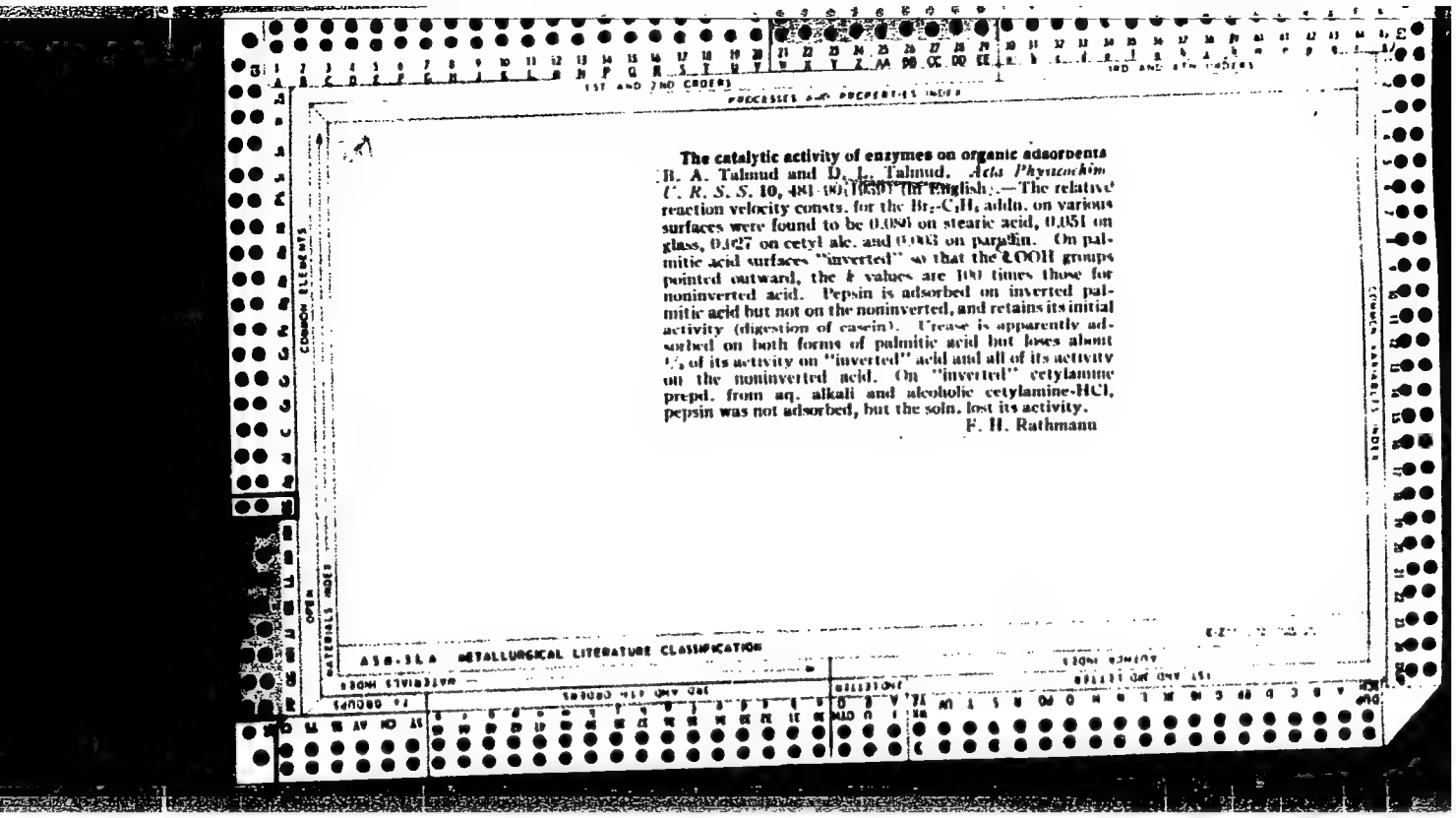
W. R. Henn

TALMUD, D. L.

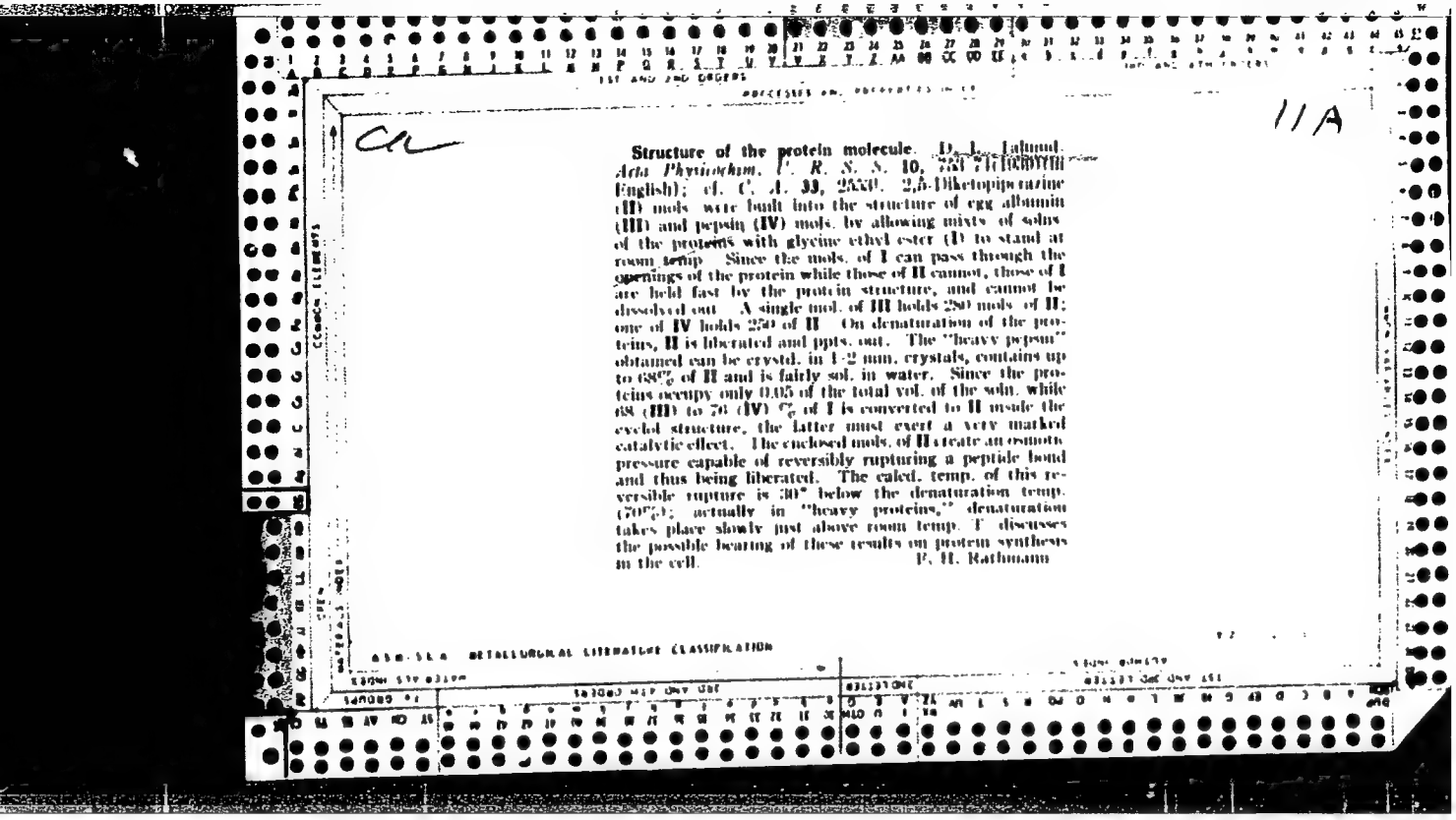
"The Structure of the Protein Molecule",

Obshch. Khim., 9, No. 13, 1939. (Read at a meeting of the Division of Mathematic and Natural Sciences, of the Academy of Sciences USSR, 27 Sept 1938)

Report U-1614, 3 Jan 1952

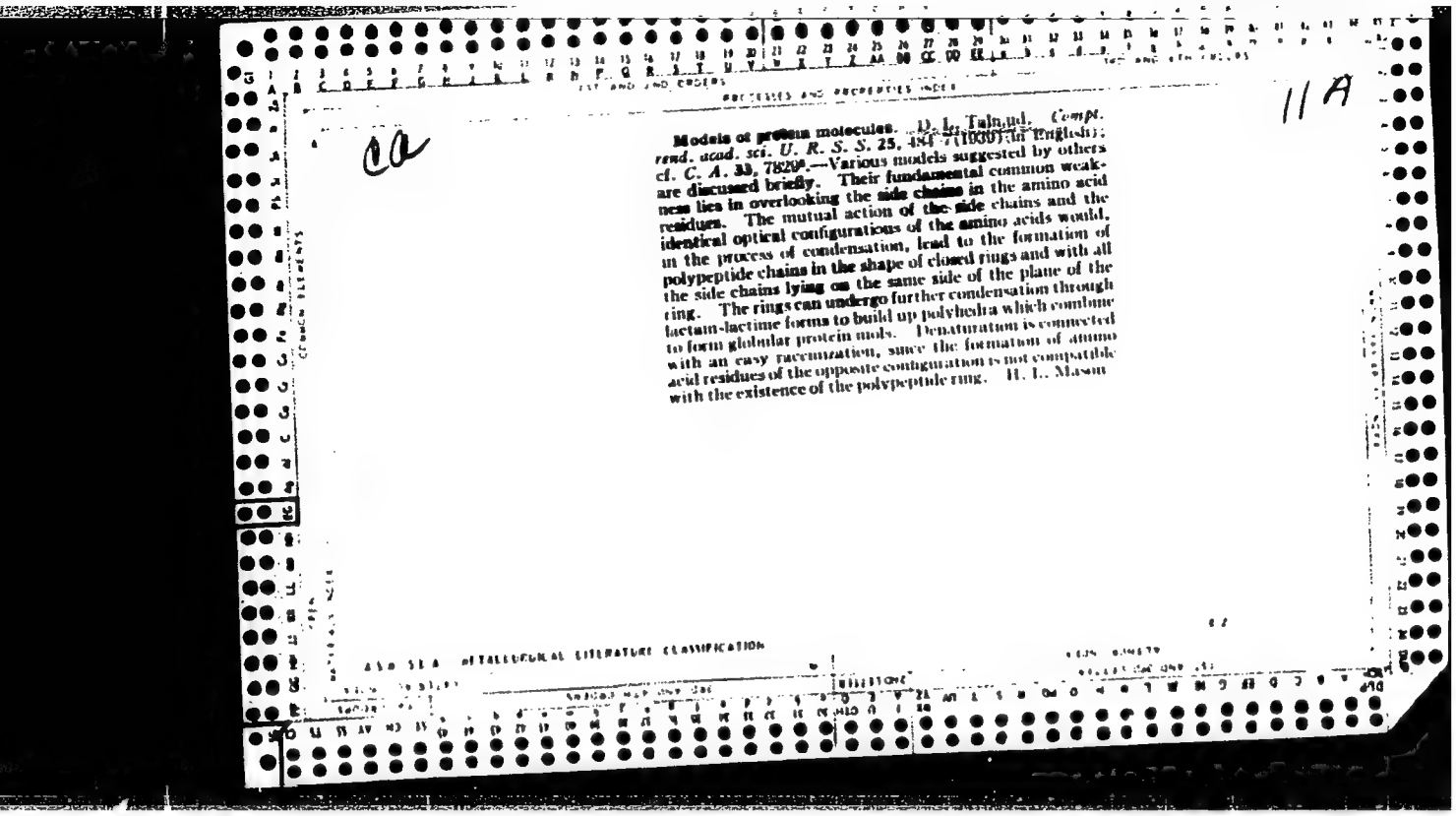


The catalytic activity of enzymes on organic adsorbents
B. A. Talmud and D. L. Talmud, *Acta Physicochim. U. R. S. S.* **10**, 481-90 (1939) (in English).—The relative reaction velocity consts. for the Br_2-C_4H_8 addn. on various surfaces were found to be 0.080 on stearic acid, 0.051 on glass, 0.027 on cetyl alc. and 0.003 on paraffin. On palmitic acid surfaces "inverted" so that the COOH groups pointed outward, the k values are 100 times those for noninverted acid. Pepsin is adsorbed on inverted palmitic acid but not on the noninverted, and retains its initial activity (digestion of casein). Urease is apparently adsorbed on both forms of palmitic acid but loses about ½ of its activity on "inverted" acid and all of its activity on the noninverted acid. On "inverted" cetylamine prepd. from aq. alkali and alcoholic cetylamine-HCl, pepsin was not adsorbed, but the soln. lost its activity.
F. H. Rathmann



Structure of the protein molecule. D. L. Talmud. *Acta Physiochim. U. R. S. S.* 10, 781-7 (1939) (English); cf. *C. A.* 33, 2330. 2,5-Diketopiperazine (II) mols. were built into the structure of egg albumin (III) and pepsin (IV) mols. by allowing mixts. of solns. of the proteins with glycine ethyl ester (I) to stand at room temp. Since the mols. of I can pass through the openings of the protein while those of II cannot, those of I are held fast by the protein structure, and cannot be dissolved out. A single mol. of III holds 280 mols. of II; one of IV holds 250 of II. On denaturation of the proteins, II is liberated and ppts. out. The "heavy pepsin" obtained can be crystd. in 1-2 mm. crystals, contains up to 68% of II and is fairly sol. in water. Since the proteins occupy only 0.05 of the total vol. of the soln. while 68 (III) to 70 (IV) % of I is converted to II inside the cyclol structure, the latter must exert a very marked catalytic effect. The enclosed mols. of II create an osmotic pressure capable of reversibly rupturing a peptide bond and thus being liberated. The calcd. temp. of this reversible rupture is 30° below the denaturation temp. (70°C); actually in "heavy proteins," denaturation takes place slowly just above room temp. T. discusses the possible bearing of these results on protein synthesis in the cell.

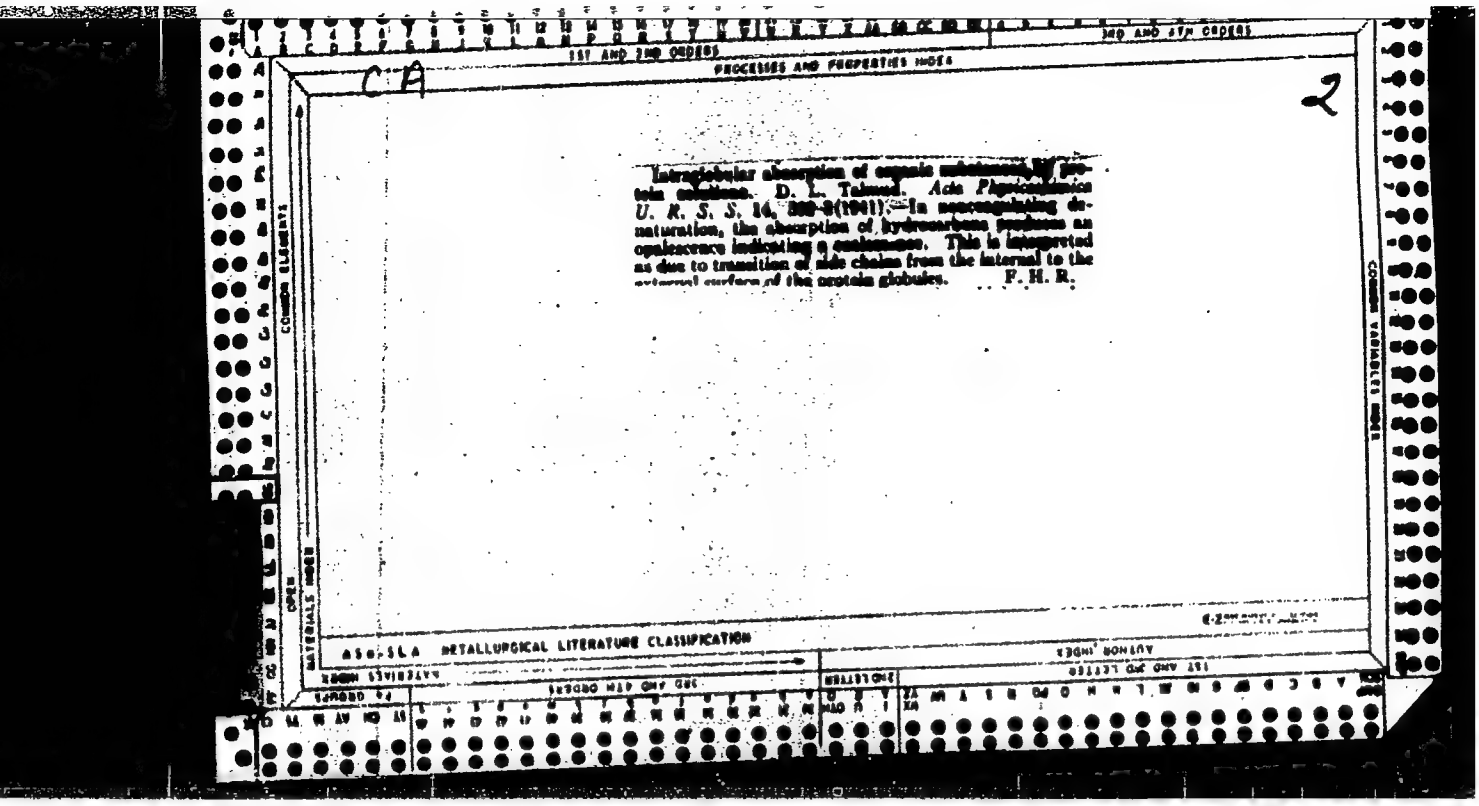
P. H. Rathmann

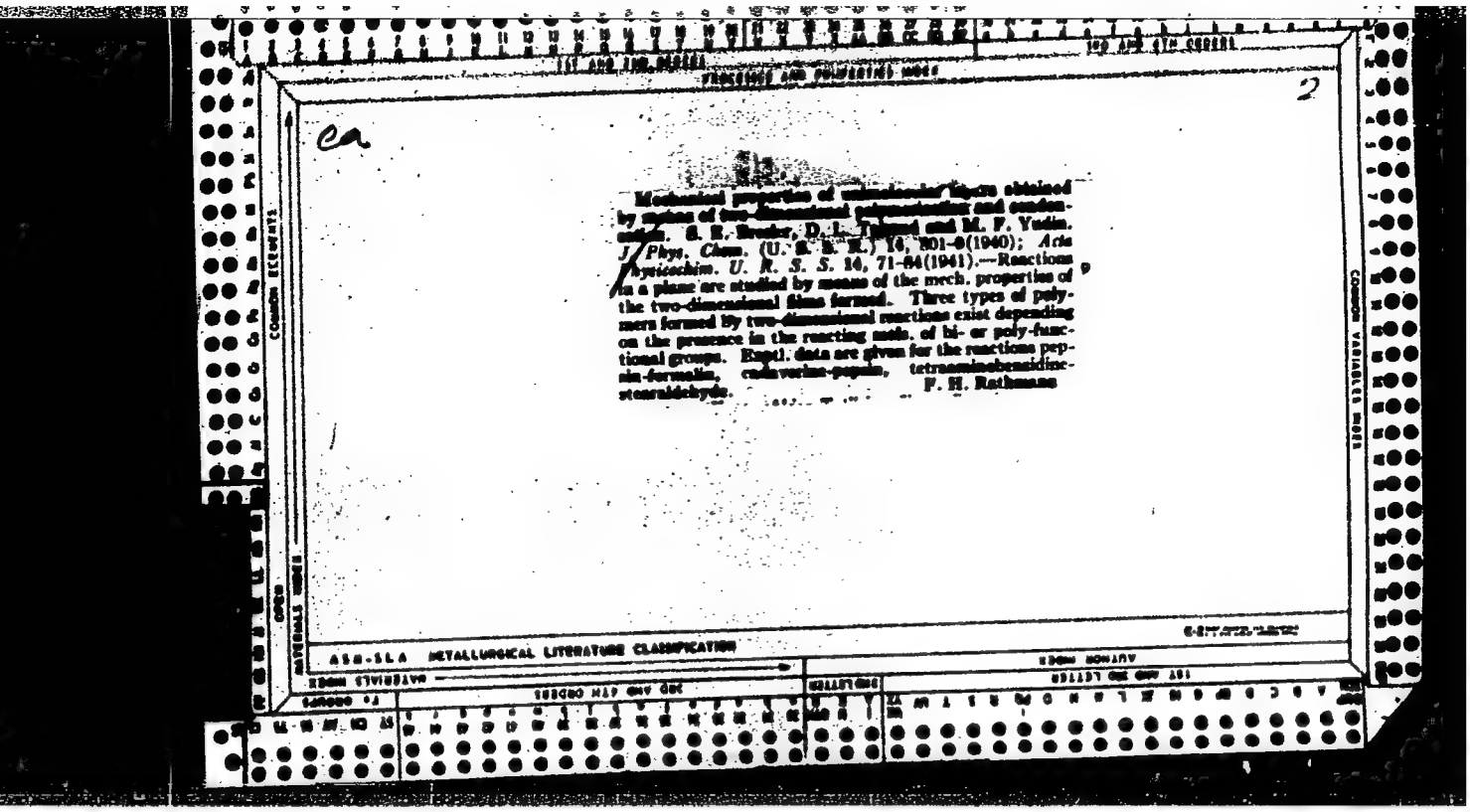


Models of protein molecules. D. L. Talmud. *Compt. rend. acad. sci. U. R. S. S.* **25**, 484–7 (1939) (in English); cf. *C. A.* **33**, 7829⁹.—Various models suggested by others are discussed briefly. Their fundamental common weakness lies in overlooking the side chains in the amino acid residues. The mutual action of the side chains and the identical optical configurations of the amino acids would, in the process of condensation, lead to the formation of polypeptide chains in the shape of closed rings and with all the side chains lying on the same side of the plane of the ring. The rings can undergo further condensation through lactam-lactime forms to build up polyhedra which combine to form globular protein mols. Denaturation is connected with an easy racemization, since the formation of amino acid residues of the opposite configuration is not compatible with the existence of the polypeptide ring. H. L. Mason

TALMUD, D. L.

"Protein Structure (Stroeniye Belka), published by AN SSSR, 1940.





Ca

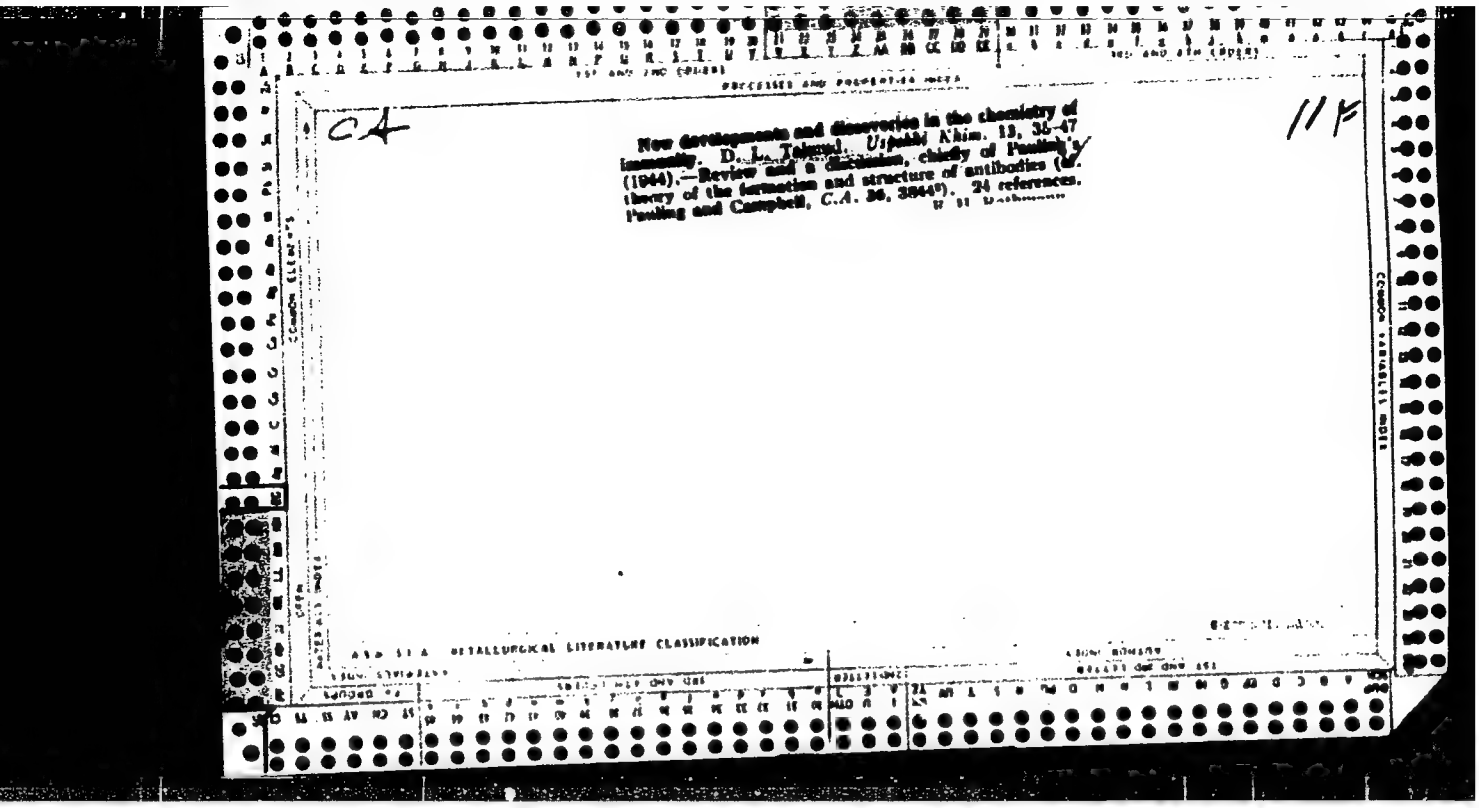
2

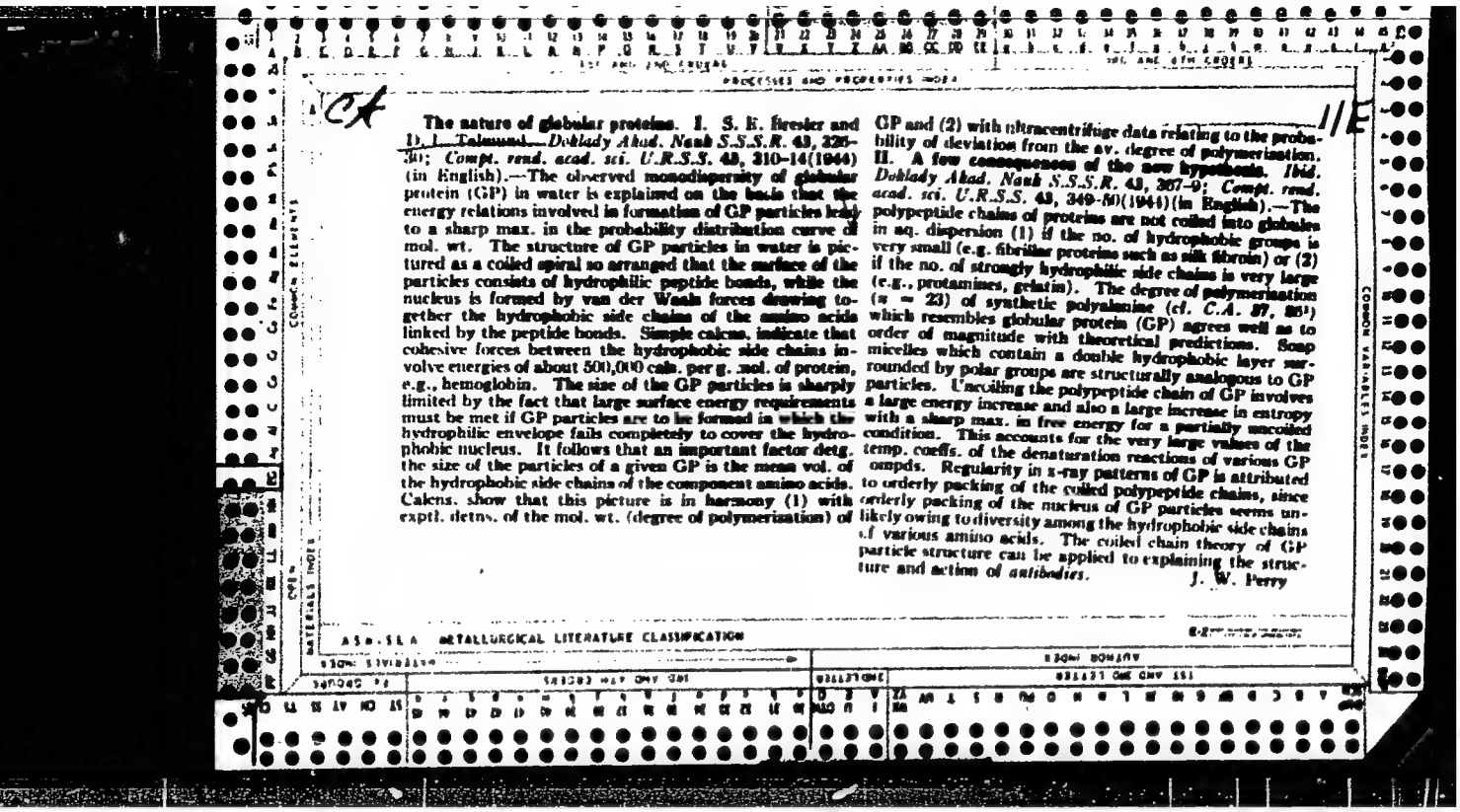
Mechanical properties of unimolecular layers obtained by means of two-dimensional polymerization and condensation. S. E. Bresler, D. L. Talmud and M. F. Yudin. *J. Phys. Chem.* (U. S. S. R.) 14, 801-6(1940); *Acta Physicochim. U. R. S. S.* 14, 71-84(1941).—Reactions in a plane are studied by means of the mech. properties of the two-dimensional films formed. Three types of polymers formed by two-dimensional reactions exist depending on the presence in the reacting mols. of bi- or poly-functional groups. Exptl. data are given for the reactions pepsin-formalin, crab-vanine-pepsin, tetraaminobenzidine-stearaldehyde. P. H. Rathmann

TALMUD, D. L.

"Chemical Morphology of Albumin Macromolecules and Some of Their Biological Functions," final report presented at the General Assemblies of AS 11-19 February 1944.

VAN 4/5-44





The nature of globular proteins. I. S. E. Bresler and D. I. Talmud.—*Doklady Akad. Nauk S.S.S.R.* 43, 226–30; *Compt. rend. acad. sci. U.R.S.S.* 43, 310–14(1944) (in English).—The observed monodisperity of globular protein (GP) in water is explained on the basis that the energy relations involved in formation of GP particles lead to a sharp max. in the probability distribution curve of mol. wt. The structure of GP particles in water is pictured as a coiled spiral so arranged that the surface of the particles consists of hydrophilic peptide bonds, while the nucleus is formed by van der Waals forces drawing together the hydrophobic side chains of the amino acids linked by the peptide bonds. Simple calcns. indicate that cohesive forces between the hydrophobic side chains involve energies of about 500,000 cals. per g. mol. of protein, e.g., hemoglobin. The size of the GP particles is sharply limited by the fact that large surface energy requirements must be met if GP particles are to be formed in which the hydrophilic envelope fails completely to cover the hydrophobic nucleus. It follows that an important factor detg. the size of the particles of a given GP is the mean vol. of the hydrophobic side chains of the component amino acids. Calcns. show that this picture is in harmony (1) with exptl. detns. of the mol. wt. (degree of polymerization) of GP and (2) with ultracentrifuge data relating to the probability of deviation from the av. degree of polymerization. II. **A few consequences of the new hypothesis.** *Ibid. Doklady Akad. Nauk S.S.S.R.* 43, 267–9; *Compt. rend. acad. sci. U.R.S.S.* 43, 349–50(1944)(in English).—The polypeptide chains of proteins are not coiled into globules in aq. dispersion (1) if the no. of hydrophobic groups is very small (e.g. fibrillar proteins such as silk fibroin) or (2) if the no. of strongly hydrophilic side chains is very large (e.g., protamines, gelatin). The degree of polymerization ($n = 23$) of synthetic polyalanine (*cf. C.A.* **37**, 851) which resembles globular protein (GP) agrees well as to order of magnitude with theoretical predictions. Soap micelles which contain a double hydrophobic layer surrounded by polar groups are structurally analogous to GP particles. Uncoiling the polypeptide chain of GP involves a large energy increase and also a large increase in entropy with a sharp max. in free energy for a partially uncoiled condition. This accounts for the very large values of the temp. coeffs. of the denaturation reactions of various GP compds. Regularity in x-ray patterns of GP is attributed to orderly packing of the coiled polypeptide chains, since orderly packing of the nucleus of GP particles seems unlikely owing to diversity among the hydrophobic side chains of various amino acids. The coiled chain theory of GP particle structure can be applied to explaining the structure and action of *antibodies*.

J. W. Perry

CA

11B

The structure of the protein molecule I. I. Labunt *Doklady Akad. Nauk S.S.S.R.* 17,28 40(1947). [illegible]
(*Russian Zone Ed.*) **1948**, 1, 591-2; cf. *C.A.* **43**, 3058*i*.—T.'s theory of the globular structure of the macromol. of protein is discussed. From a study of the statistical distribution of amino acid residues with various side chains in the polypeptide chain of the protein mol. it is shown that about half of all these residues carry hydrophobic side chains (hydrocarbon groups) while the remainder carry side chains of hydrophilic, polar groups. The actual shape of the mol. is detd. by the medium surrounding it. In a polar medium the hydrophobic side chains "act on" each other and form the nucleus of the globular mol. The hydrophilic side chains, which tend to react with the medium, then form the surface of the mol. Statistically about 130 amino acid residues are necessary for such a configuration. This value is in agreement with expti. data. Changes in the character of the protein with changes in the environment are explained as due to the "uncovering" of certain groups previously in the interior of the mol. The form of the macromol. is more important than its content. Prepns. of *polyphthalylguanidine* provided the simplest examples of water-sol., globular substances analogous to proteins for the expti. testing of the theory. Typical protein phenomena, such as the dependence of enzymic attack on the form of the protein mol., are explained on the basis of the model offered of the macromol. There is a continuous gradation in structure between the limiting cases of the ideal globular and the ideal fibrillar structures. M. G. Moore

AFANAS'YEV, P. V., TALMUD, B. A., and TALMUD, D. L.

Mbr., Inst. Biochemistry im. A. N. Bakh, Acad. Sci., -1946-.

"The Nature of Globular Proteins. III, A Theory of Structural Transformations of Globular and Fibrous Proteins."

Dok. AN, 55, No. 78, 1947

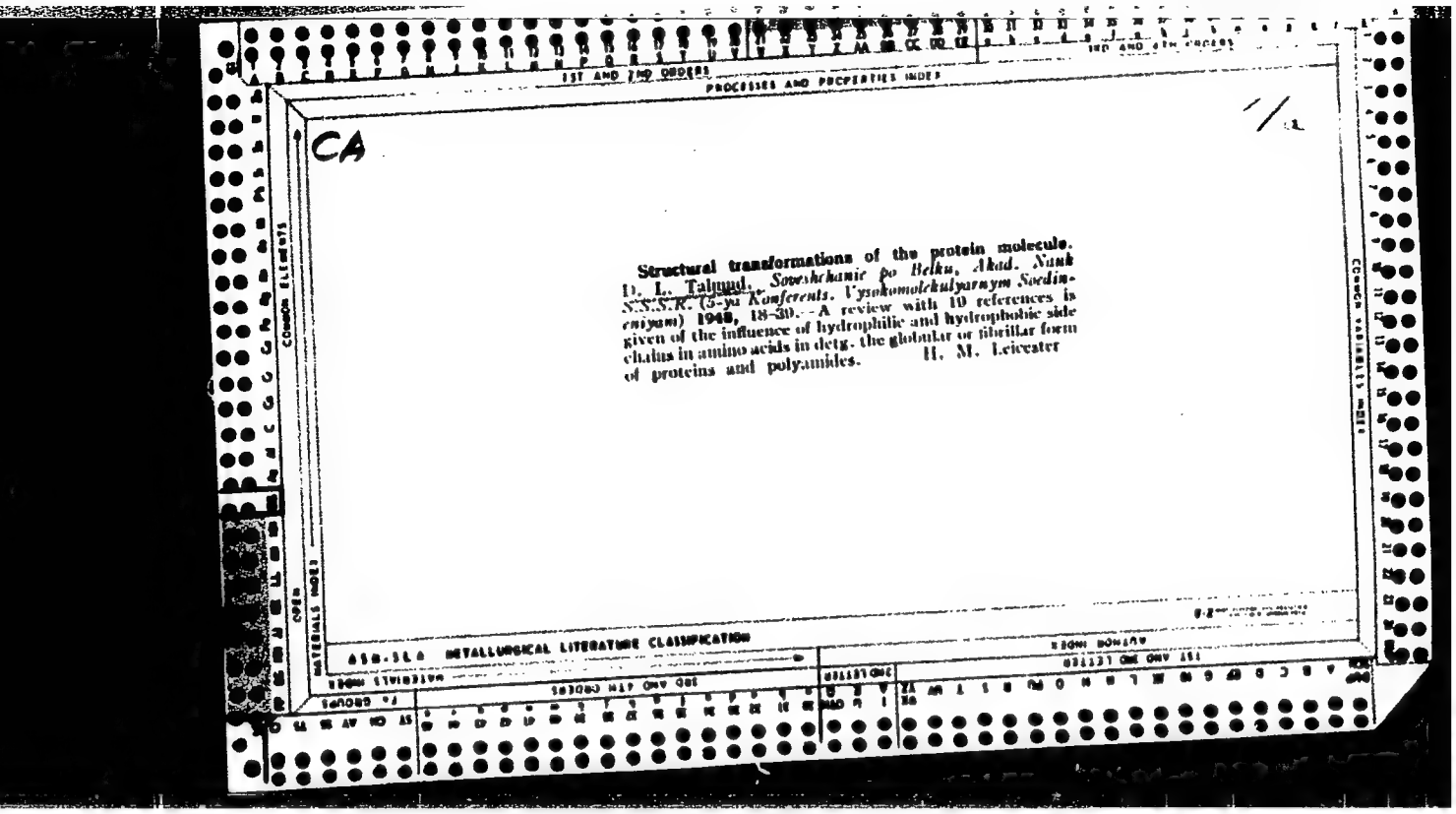
PASYNSKIY, A. G., TALMUD, D. L.; and TALMUD, D. L.

"Nature of Globular Albumen. V. Synthesis of Albumin-Like Substances in a Globular State,"

Dok. AN, 56, No. 3, 1947

"On the Nature of Globular Proteins. IV,"

Dok. AN, 55, No. 8, 1947



TALMUD, D.L.

Morphological changes in globulins. Uspekhi Biol. Khim. 1, 70-90 '50. (CA 47 no.14:7007 '53)
(MLRA 5:8)

AFANAS'YEV, P.V.; TALMUD, D.L.

Possible ways of biosynthesis of protein. Izv. Akad. nauk SSSR. Ser. biol. no.6:115-120 Nov-Dec 51. (CIML 21:5)

1. Presented by Academician A.I. Oparin. 2. Institute of Biochemistry imeni A.N. Bakh, Academy of Sciences USSR.

CA

10

Possible routes of protein biosynthesis. P. P. Alanas'ev and D. L. Talmud. *Inst. Abad. Nauk S.S.S.R., Ser. Biol.* 1952, No. 1, 115-20; cf. *C.A.* 42, 3792i.—Review with numerous references. It is suggested that an incipient globulin mol. surrounded by proper medium can grow by accretion of amino acids or peptides until a certain size is reached, when the globule will divide and can continue such growth independently. G. M. Kosolapoff

PA 247T25

USSR/Biology - Proteins 21 Aug 52

"Replaceability of Amino Acids in the Protein Molecule in Vitro," A. G. Pasynskiy, Corr Mem Acad Sci USSR, D. L. Talmud, Inst Biochem im A. N. Bakh Acad Sci USSR

DAN SSSR, Vol 85, No 6, pp 1361-1364

Using trypsin and applying high pressure, as described in S. Ye. Bresler's papers, succeeded in replacing tyrosine with phenylalanine in pure serumglobulin of horses and in human serumalbumin. Found that the exchange of amino acids does not

247T25

take place in the absence of the enzyme. When optically active phenylalanine was used, the results differed depending on the activity of the optical enantiomorph: under the conditions of the expt, 0.7 mg/ml of l-phenylalanine could be made to enter into the compn of the protein as compared with 0.3 mg/ml in the case of d-phenylalanine.

247T25

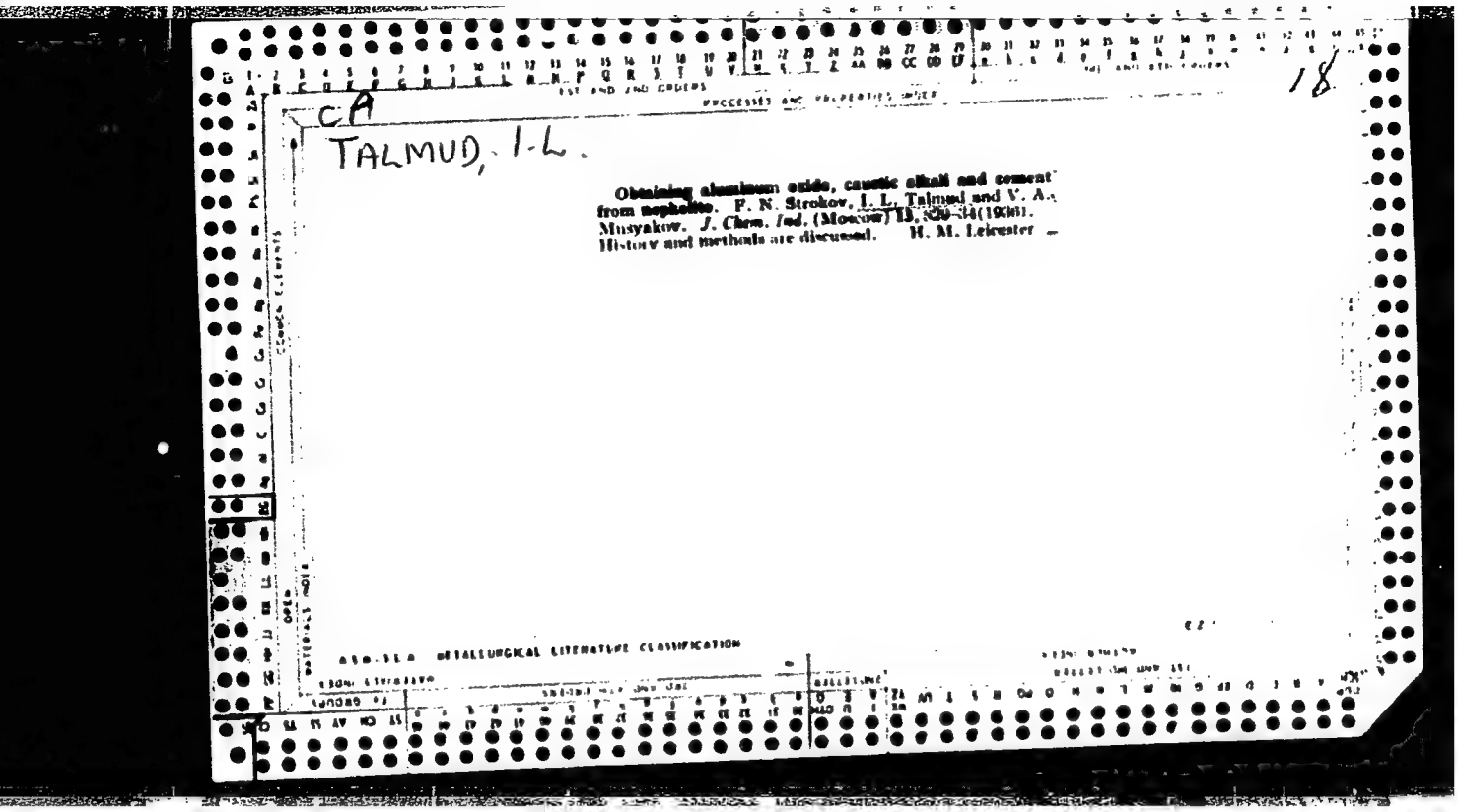
TALMUD, D. L.

USSR

Reaction of globular proteins with esters of the acids. P. V. Afanas'ev, B. A. Talmud, and D. L. Talmud.—*Doklady Akad. Nauk S.S.S.R.* 90. 619–22(1953); cf. *C.A.* 47, 1109b.—Treatment of egg albumin in phosphate buffer at pH 7.5 with $H_2NCH_2CO_2Et$ in 1:2 molar ratio and incubation at 37° led to gradual decline of pH to 4.5, with reduction in the content of acidic groups of the protein. Dialysis and paper chromatography of the product showed the liberation of 21% of aspartic acid (based on total content of it in the protein). The dialyzed product was hydrolyzed, yielding 4.26% glycine, in comparison with 3.13% in the initial albumin, which corresponds to the amt. of displaced aspartic acid. Probably the ester is hydrolyzed, with transesterification being the concurrent reaction in which glycine replaces aspartic acid in the protein. G. M. Kosolapoff

TALMID, Ira Davidovna; D'YAKOV, A.M., otvetstvennyy red.; LESNYKH, I.S., red.izd-va; NEGRIMOVSKAYA, R.A., tekhn.red.

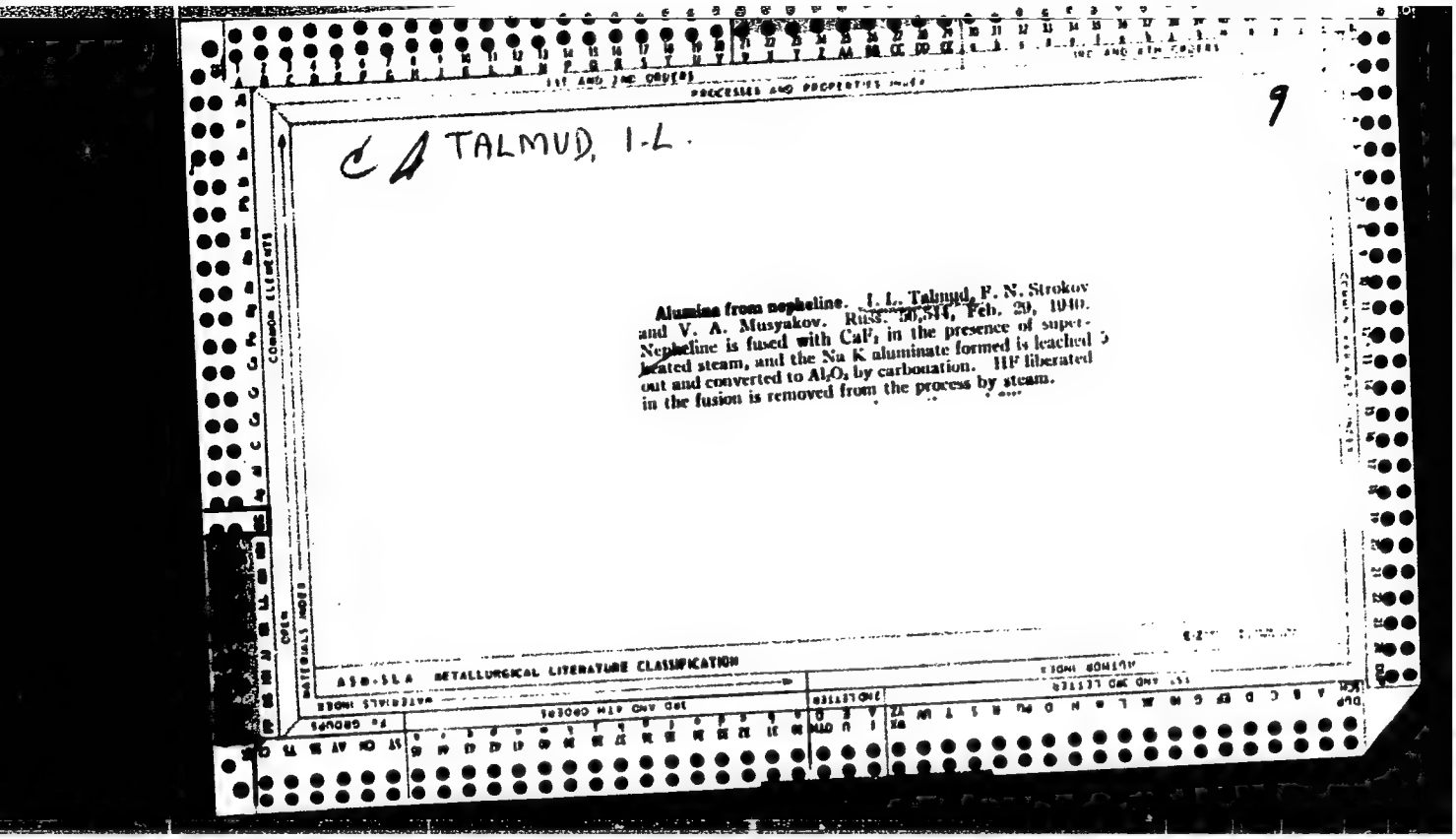
[Present-day Ceylon] Sovremennyi TSeilon. Moskva, Izd-vo vostochnoi lit-ry, 1958. 82 p. (MIRA 11:6)
(Ceylon)



CA

TALMUD, I.L.

Obtaining aluminum oxide, caustic alkali and cement from nepheline. P. N. Strokov, I. L. Talmud and V. A. Musyakov. *J. Chem. Ind. (Moscow)* 13, 830–34(1936). History and methods are discussed. H. M. Leicester



CA TALMUD, I.L.

9

Alumina from nepheline. I. L. Talmud, F. N. Strokov and V. A. Musyakov. RUSS. 50,514, Feb. 29, 1940. Nepheline is fused with CaF_2 in the presence of superheated steam, and the Na K aluminate formed is leached out and converted to Al_2O_3 by carbonation. HF liberated in the fusion is removed from the process by steam.

TALMUD, I L

SUBJECT: USSR/Aluminum Production. 25-4-6/34

AUTHOR: Talmud, I.L., Director of the Volkhov Aluminum Plant

TITLE: Aluminum from Nepheline (Aluminiy iz Nefelina)

PERIODICAL: Nauka i Zhizn', April 1957, # 4, pp 14-16

ABSTRACT: The Soviet Union has limited reserves of bauxite, but unlimited supplies of nepheline which is mainly found on the Kola peninsula, in the Krasnoyarsk district, and in Armenia. While bauxite yields 50 to 60 % of aluminum oxide, nepheline contains merely 30 % of it. The new technology of processing nepheline was first taken up by the Volkhov Aluminum Plant - it was the first of its kind in the world. The most difficult problem was to destroy the nepheline molecules and to extract from them aluminum oxide. For this purpose limestone was chosen as the most suitable and cheapest material. After facing immense difficulties in the beginning, the extraction of aluminum oxide proved profitable as a few by-products could be derived simultaneously. With each ton of aluminum oxide, extracted nine tons of cement, and 0.9 tons of sodium carbonate and potassium carbonate could be produced; thus the net cost of extracting aluminum oxide from

Card 1/2

25-4-6/34

TITLE: Aluminum from Nepheline (Aluminiy iz Nefelina)

nepheline is about the same as from bauxite thanks to the by-products which can be used in building up the USSR. The Volkhov plant has already produced hundreds of thousands of tons of aluminum oxide, sodium carbonate and potassium carbonate and over one million tons cement. Not long ago the plant has developed a system of extracting one more component - the rare metal of gallium which is also contained in nepheline. The USSR thus is able to produce unlimited quantities of aluminum. Power for the Aluminum Plant is being supplied by the Volkhov GES.

This article contains three diagrams.

ASSOCIATION: Volkhov Aluminum Plant.

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress.

Card 2/2

136-5-2/14

AUTHOR: Talmud, I.L.

TITLE: The Volkhov Aluminium Works - Pioneer of the Aluminium Industry. (Volkhovskiy Alyuminievyy zavod - pervenets alyuminievoy promyshlennosti).

PERIODICAL: "Tsvetnye Metally" (Non-ferrous Metals) 1957, No.5, pp. 9 - 13 (U.S.S.R.)

ABSTRACT: The Volkhov Works was completed in 1932. It produced the first commercial aluminium in the U.S.S.R. and has played a leading part in the development of the industry since then. The activities of the works are reviewed in this article. Experience at this works served in the design of later works. It has played a leading part in the adoption of aluminium production on the basis of nephelites as a raw material, but the start of this was delayed by the war until 1952. Experience at the works has conclusively shown that the cost of alumina from nephelites is not greater than from bauxites, the capital costs being less for the complex treatment of nephelites than required for the construction of separate alumina, soda-products and cement plants. The article mentions by name some of the works personnel concerned in the continuous improvement in practice which has occurred and mention is also made of research results at the works. The latter includes the proof of the

Card 1/2

SOV/137-59-3-5496

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 79 (USSR)

AUTHOR: Talmud, I. L.

TITLE: Nepheline -- a New Type of Complex Raw Material (Nefelin -- novyy vid kompleksnogo syr'ya)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 8, pp 30-34

ABSTRACT: A description is given of the development of the complex processing of nephelines at the Volkhovskiy aluminum plant. An up-to-date flow-sheet of the production of the plant is adduced. The ultimate solution of the problem of diminishing the slope of the sintering and calcinating furnaces from 4.9 to 2.2% and increasing the rpm to 2 was recently attained at the plant. A highly productive thickener-filter was constructed, and the advantages of agitation leaching prior to diffusion leaching were proved. The following technical-economic indices are adduced: Yield of alumina from nepheline is 80 - 85%; output of sintering furnaces is 16 tons/hour, of cement furnaces 17.7 tons/hour; consumption of alkalies is 970 kg/ton Al_2O_3; consumption of nepheline 4 ton/ton Al_2O_3; cost of alumina in the third quarter of 1956 was 881 rubles per ton.

V. B.

Card 1/1

TALMUD, I.L.

The Volkhov Aluminum Plant, first in the aluminum industry. Tsvet. met. 30 no.5:9-13 My '57. (MLRA 10:6)

1. Volkhovskiy alyuminiyevyy zavod.
(Volkhov Valley--Aluminum industry)

TALMUD, I.L.

How one should not evaluate the economics of using certain types of aluminous raw materials in industries of the U.S.S.R. Izv.vys.uchev.zav.; tsvet.met. 2 no.4:158 '59. (MIRA 13:1)

1. Direktor Volkhovskogo alyuminiyevogo zavoda.
(Nepheline) (Aluminum industry--Costs)

TALMUD, I.L.

Complete processing of raw nepheline. Khim.prom. no.4:226-232 Ap '61. (MIRA 14:4)

(Nepheline)

TALMUD, I. V.

"Khimicheskaya pererabotka nefelinovogo syr'ya."

report submitted for 35th Intl Cong, Industrial Chemistry, Warsaw, 15-19 Sep 64.

POZIN, M.Ye.; KOPYLEV, B.A.; TALMUD, M.M.

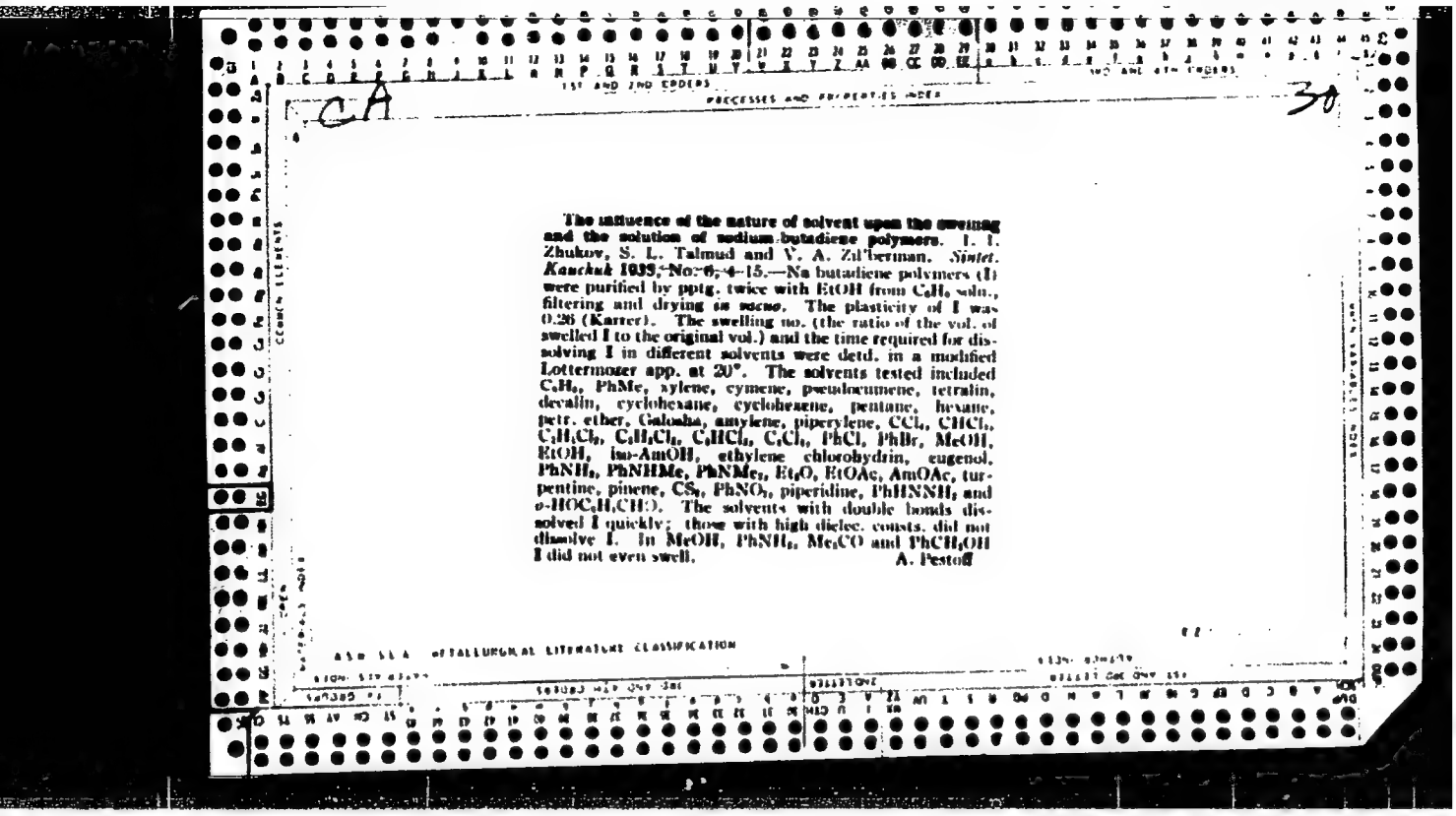
Solubility in the system $MgO - P_2O_5 - H_2O$ in its metastable state. Zhur.prikl.khim. 38 no.6:1267-1273 Je '65. (MIRA 18:10)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

POZIN, M.Ye.; KOPYLEV, B.A.; TALMUD, M.M.

Solubility and crystallization rate of dicalcium phosphate in the system MgO - CaO - P_2O_5 - H_2O. Zhur.prikl.khim. 38 no.9:1904-1909 S '65. (MIRA 18:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.



CA

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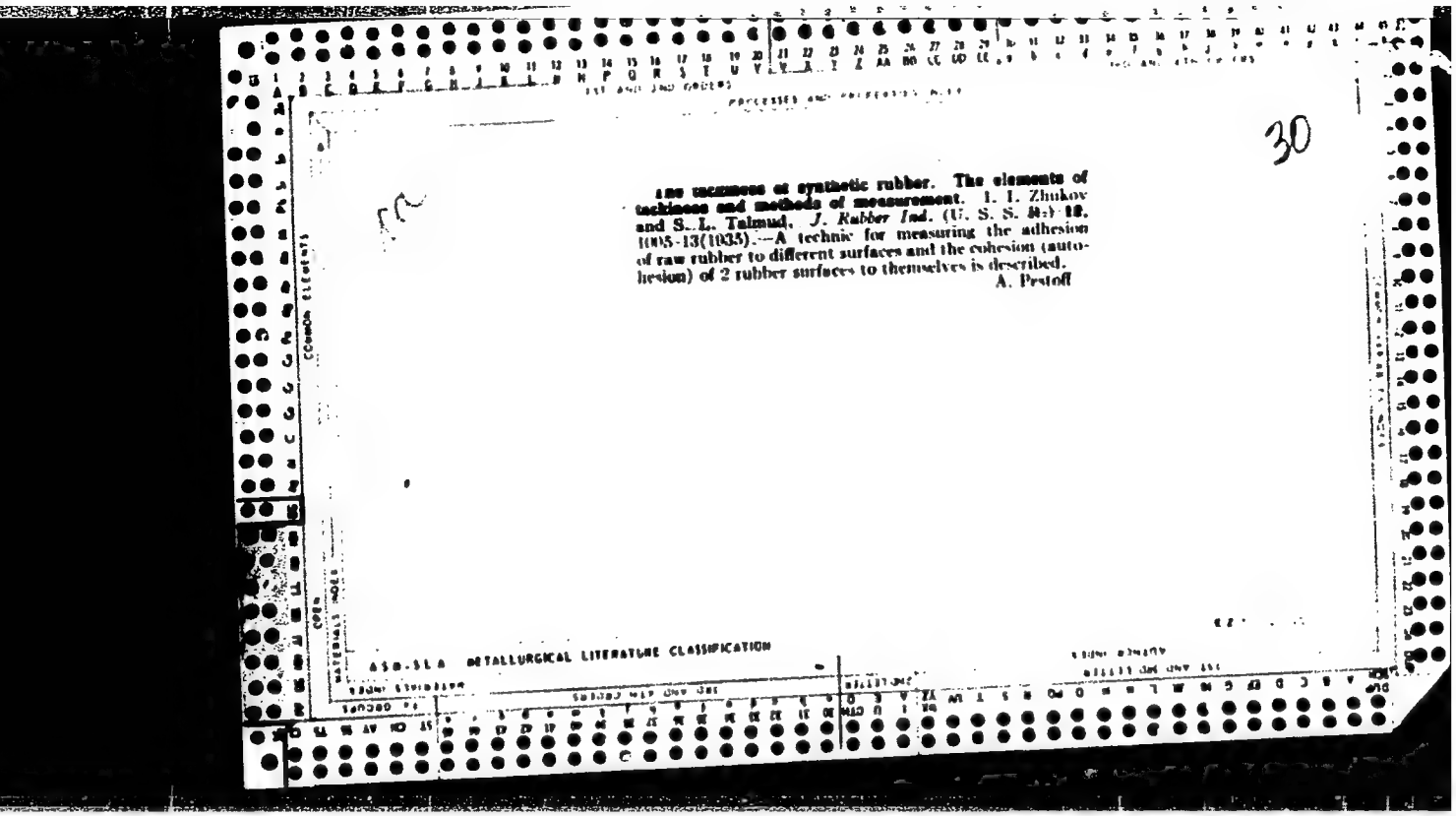
The influence of the nature of solvent upon the swelling and the solution of sodium-butadiene polymers. I. I. Zhukov, S. L. Talmud and V. A. Zil'berman. *Sintet. Kauchuk* **1935**, No. 6, 4–15.—Na butadiene polymers (I) were purified by pptg. twice with EtOH from C_6H_6 soln., filtering and drying *in vacuo*. The plasticity of I was 0.26 (Karrer). The swelling no. (the ratio of the vol. of swelled I to the original vol.) and the time required for dissolving I in different solvents were detd. in a modified Lottermoser app. at 20°. The solvents tested included C_6H_6, PhMe, xylene, cymene, pseudocumene, tetralin, decalin, cyclohexane, cyclohexene, pentane, hexane, petr. ether, Galosha, amylene, piperylene, CCl_4, $CHCl_3$, $C_2H_4Cl_2$, $C_2H_2Cl_4$, C_2HCl_3, C_2Cl_4, PhCl, PhBr, MeOH, EtOH, iso-AmOH, ethylene chlorohydrin, eugenol, $PhNH_2$, $PhNHMe$, $PhNMe_2$, Et_2O, EtOAc, AmOAc, turpentine, pinene, CS_2, $PhNO_2$, piperidine, $PhHNNH_2$ and *o*-HOC_6H_4CHO. The solvents with double bonds dissolved I quickly; those with high dielec. consts. did not dissolve I. In MeOH, $PhNH_2$, Me_2CO and $PhCH_2OH$ I did not even swell.

A. Pestoff



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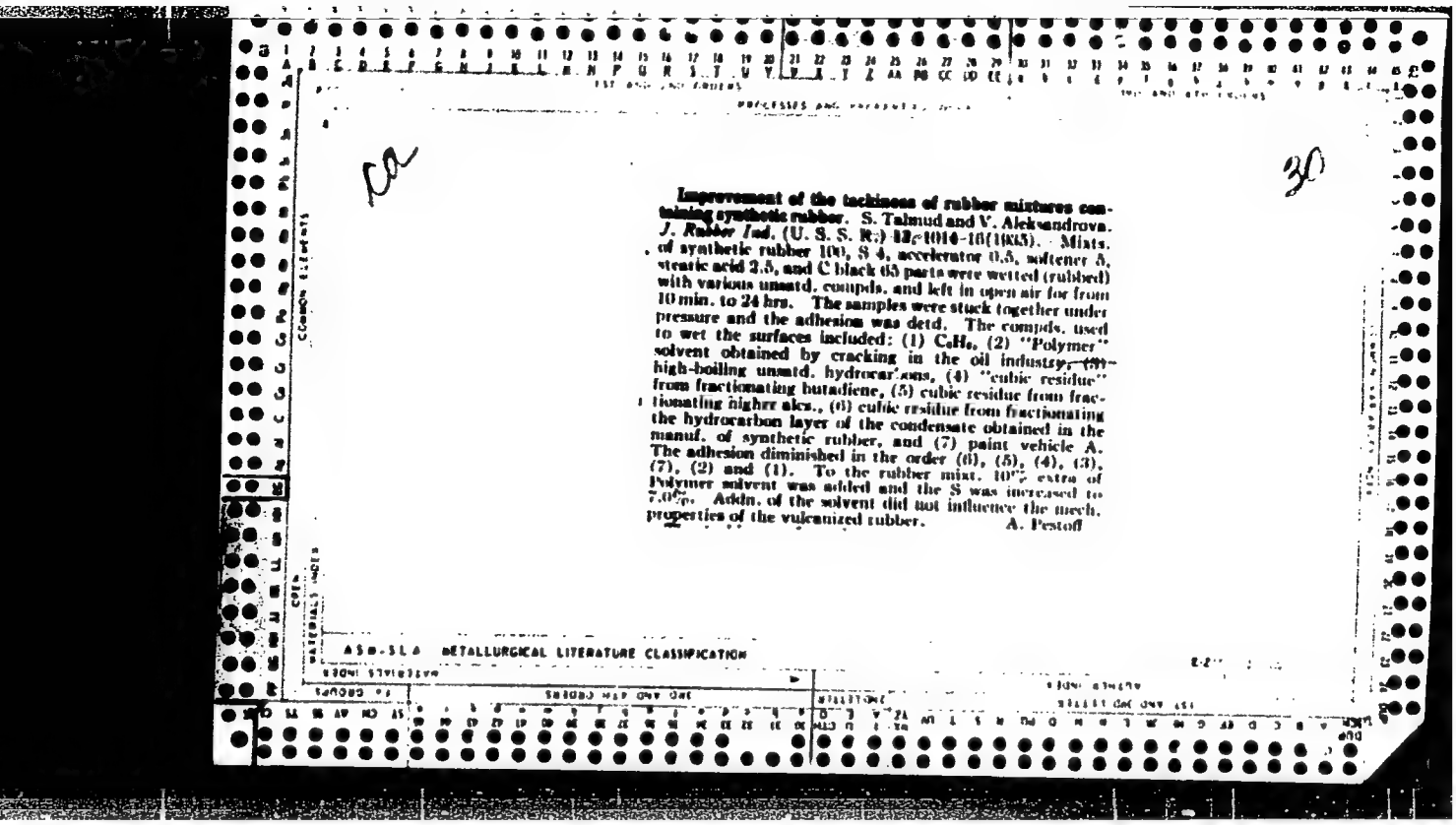
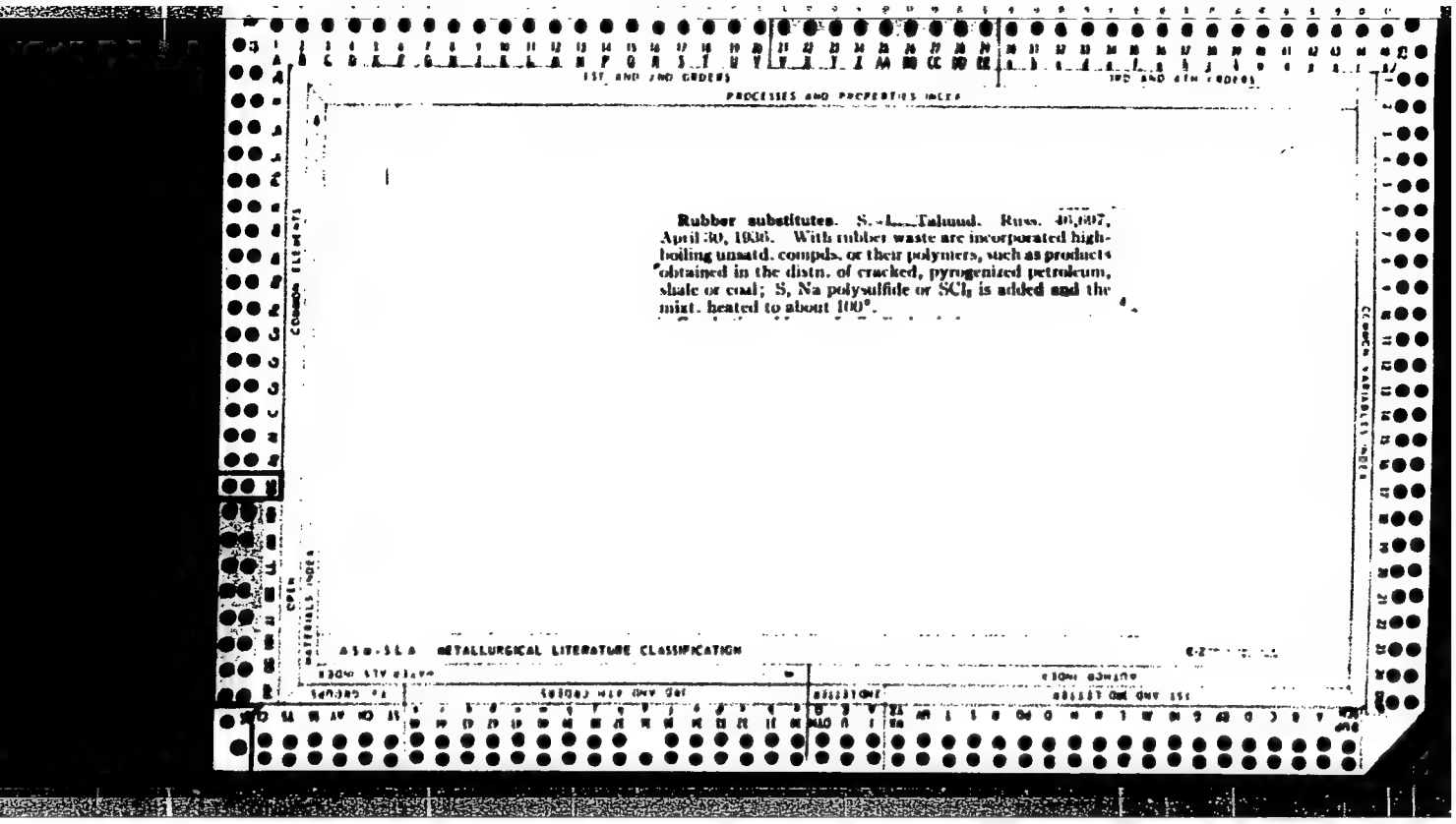
ine tackiness of synthetic rubber. The elements of tackiness and methods of measurement. I. I. Zhukov and S. L. Talmud. *J. Rubber Ind.* (U. S. S. R.) **10**, 1005-13(1933).—A technic for measuring the adhesion of raw rubber to different surfaces and the cohesion (autohesion) of 2 rubber surfaces to themselves is described.
A. Prstoff

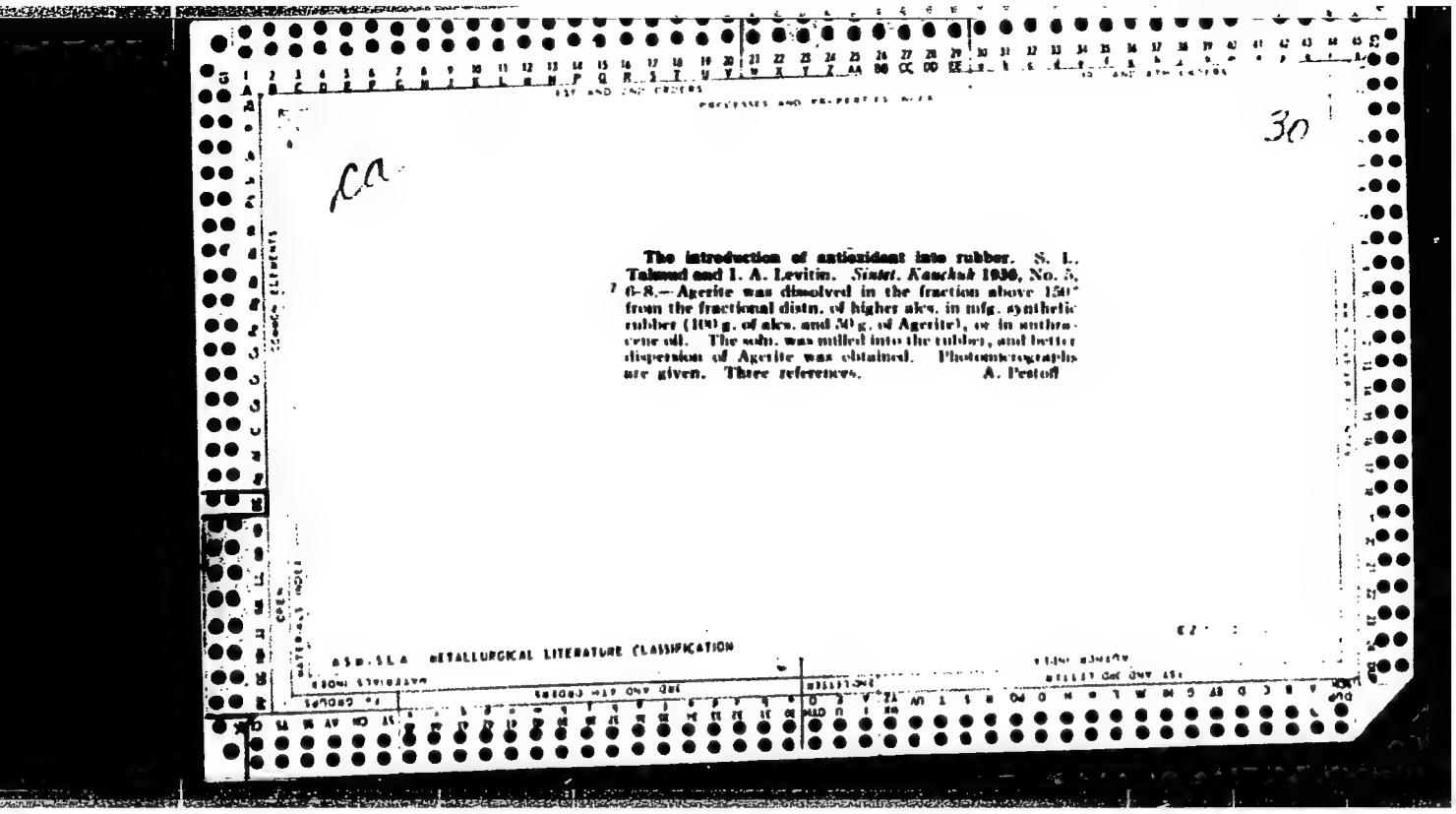
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



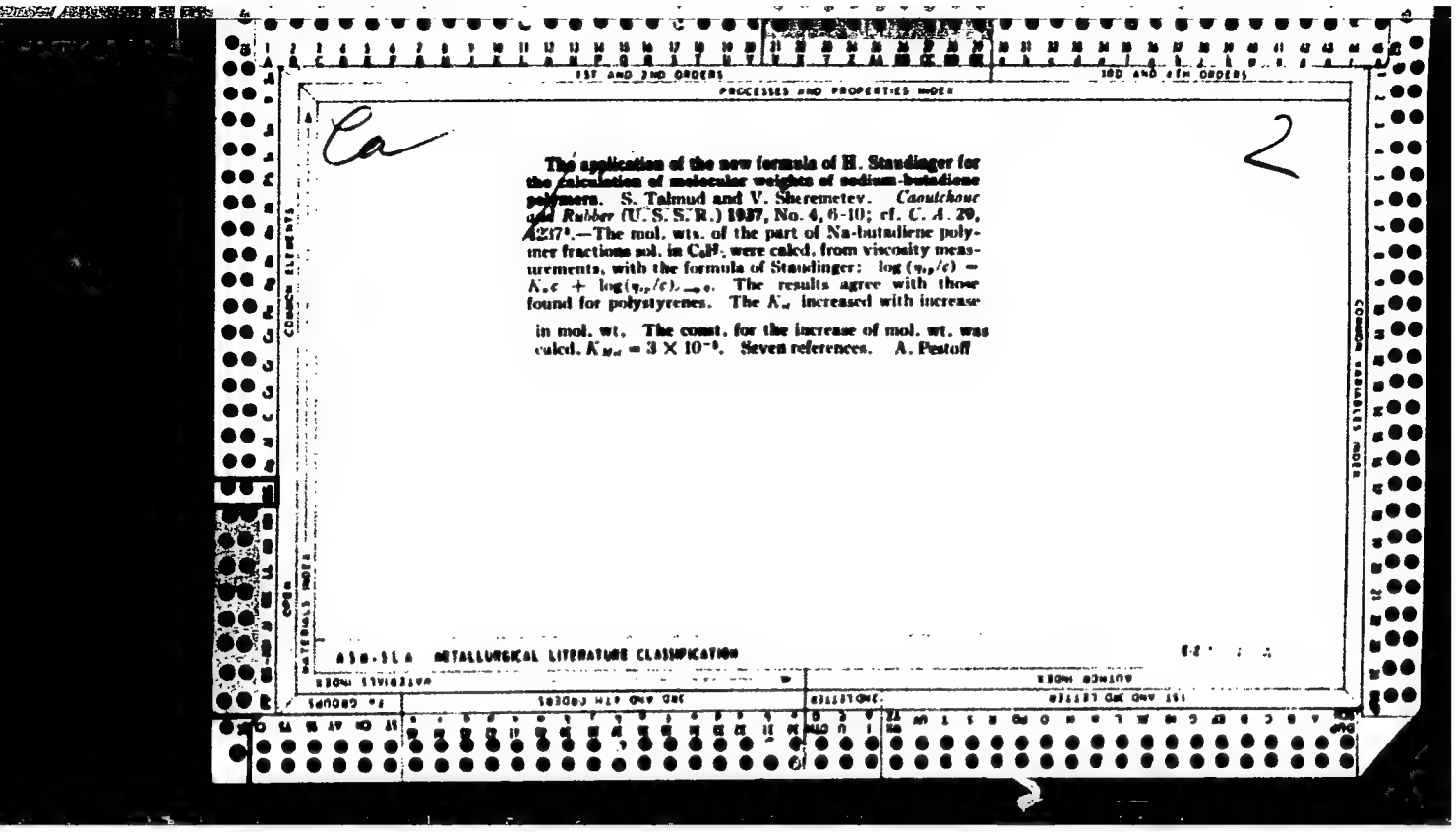
Improvement of the tackiness of rubber mixtures containing synthetic rubber. S. Talmud and V. Aleksandrova. *J. Rubber Ind.* (U. S. S. R.) 12, 1014–16(1935). Mixts. of synthetic rubber 100, S 4, accelerator 0.5, softener A, stearic acid 2.5, and C black 65 parts were wetted (rubbed) with various unsatd. compds. and left in open air for from 10 min. to 24 hrs. The samples were stuck together under pressure and the adhesion was detd. The compds. used to wet the surfaces included: (1) C_6H_6, (2) "Polymer" solvent obtained by cracking in the oil industry, (3) high-boiling unsatd. hydrocarbons, (4) "cubic residue" from fractionating butadiene, (5) cubic residue from fractionating higher alcs., (6) cubic residue from fractionating the hydrocarbon layer of the condensate obtained in the manuf. of synthetic rubber, and (7) paint vehicle A. The adhesion diminished in the order (6), (5), (4), (3), (7), (2) and (1). To the rubber mixt. 10% extra of Polymer solvent was added and the S was increased to 7.0%. Addn. of the solvent did not influence the mech. properties of the vulcanized rubber. A. Pestoff



Rubber substitutes. S. [illegible] Talmud. Russ. 40,007, April 30, 1936. With rubber waste are incorporated high-boiling unsatd. compds. or their polymers, such as products obtained in the distn. of cracked, pyrogenized petroleum, shale or coal; S, Na polysulfide or SCl_2 is added and the mixt. heated to about 100°.



The introduction of antioxidant into rubber. S. L. Talmud and I. A. Levitin. *Sintet. Kauchuk* **1930**, No. 5, 6-8.—Agerite was dissolved in the fraction above 150° from the fractional distn. of higher alcs. in mfg. synthetic rubber (100 g. of alcs. and 50 g. of Agerite), or in anthracene oil. The soln. was milled into the rubber, and better dispersion of Agerite was obtained. Photomicrographs are given. Three references. A. Petroff



Ca

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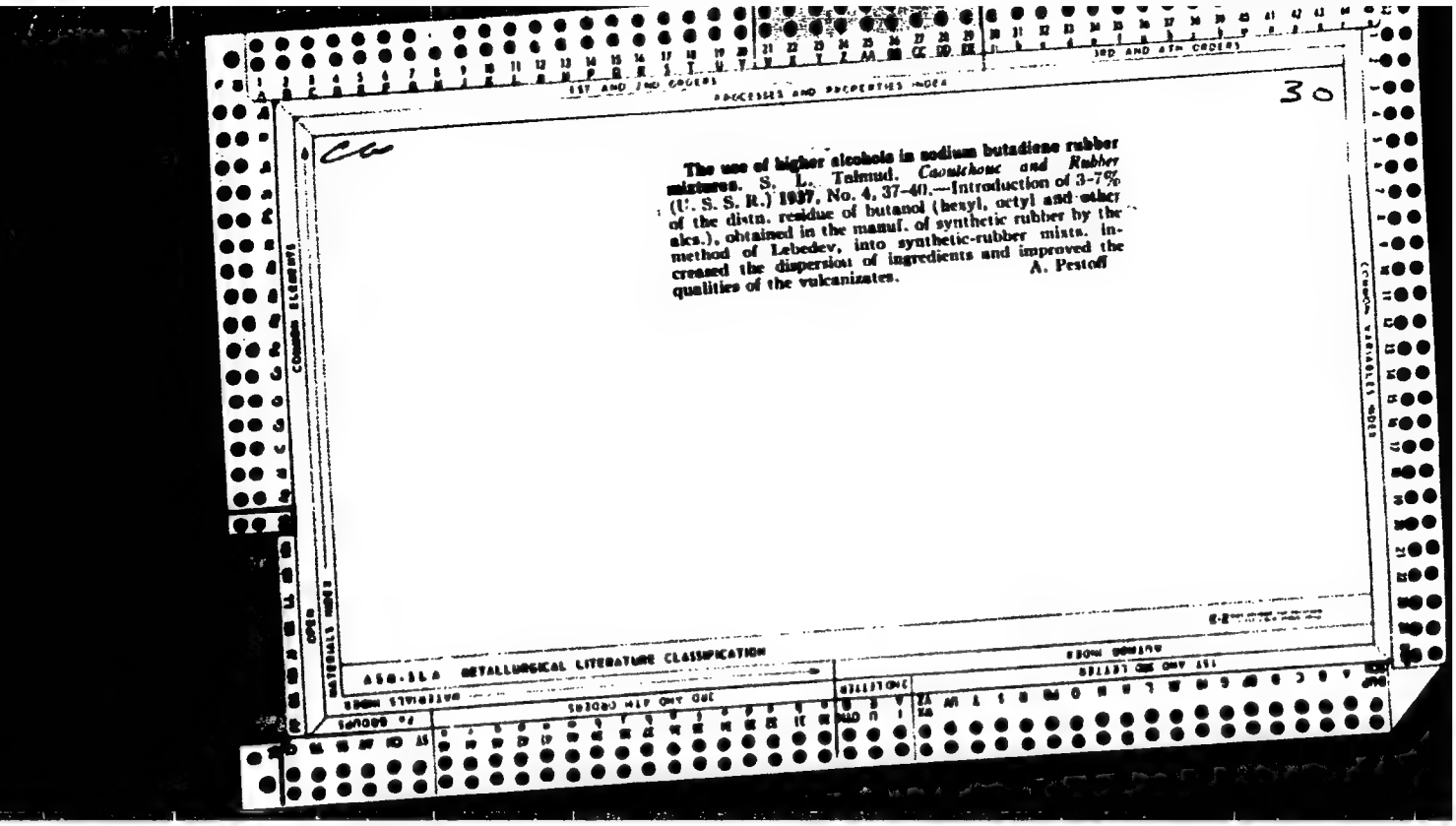
The application of the new formula of H. Staudinger for the calculation of molecular weights of sodium-butadiene polymers. S. Talmud and V. Sheremetev. *Caoutchouc and Rubber* (U.S.S.R.) **1937**, No. 4, 6-10; cf. *C. A.* **29**, 4217⁹.—The mol. wts. of the part of Na-butadiene polymer fractions sol. in CaH_2 were calcd. from viscosity measurements, with the formula of Staudinger: $\log(\eta_{sp}/c) = K_m c + \log(\eta_{sp}/c)_{c=0}$. The results agree with those found for polystyrenes. The K_m increased with increase in mol. wt. The const. for the increase of mol. wt. was calcd. $K_{m'} = 3 \times 10^{-4}$. Seven references. A. Pestoff



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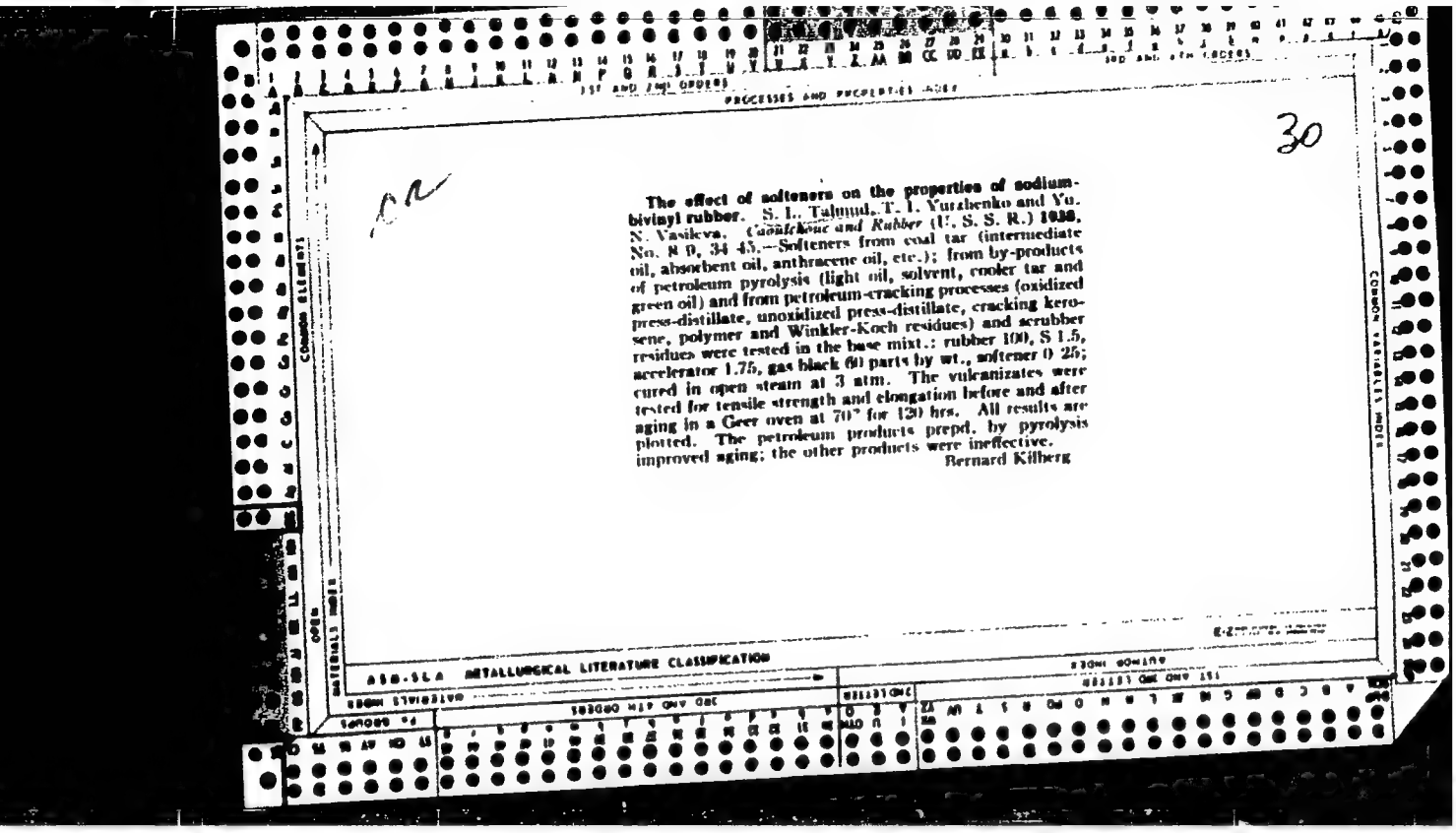
Ca

The use of higher alcohols in sodium butadiene rubber mixtures. S. L. Talmud. *Caoutchouc and Rubber* (U. S. S. R.) **1937**, No. 4, 37–40.—Introduction of 3–7% of the distn. residue of butanol (hexyl, octyl and other alks.), obtained in the manuf. of synthetic rubber by the method of Lebedev, into synthetic-rubber mixts. increased the dispersion of ingredients and improved the qualities of the vulcanizates. A. Pestoff



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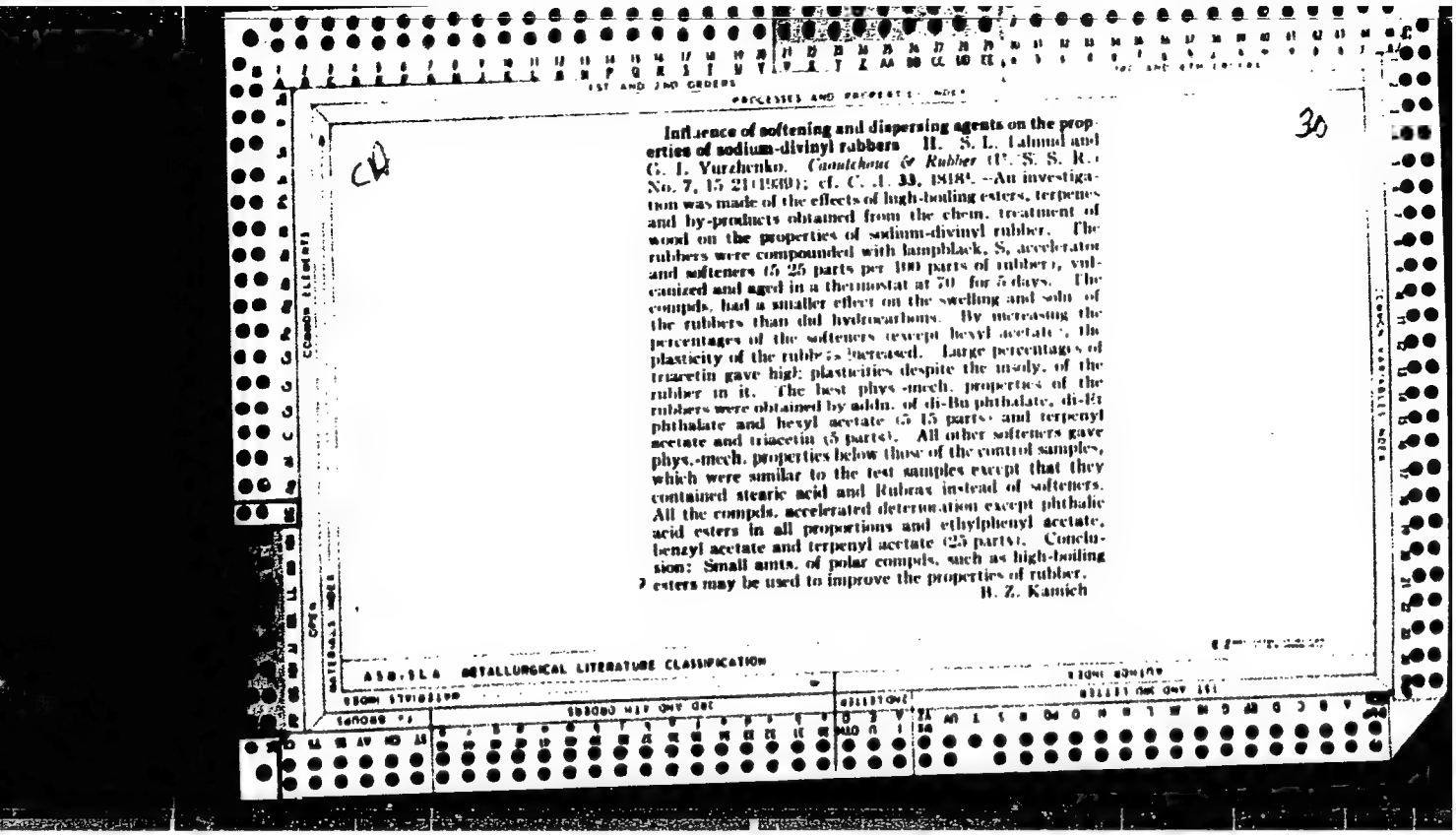
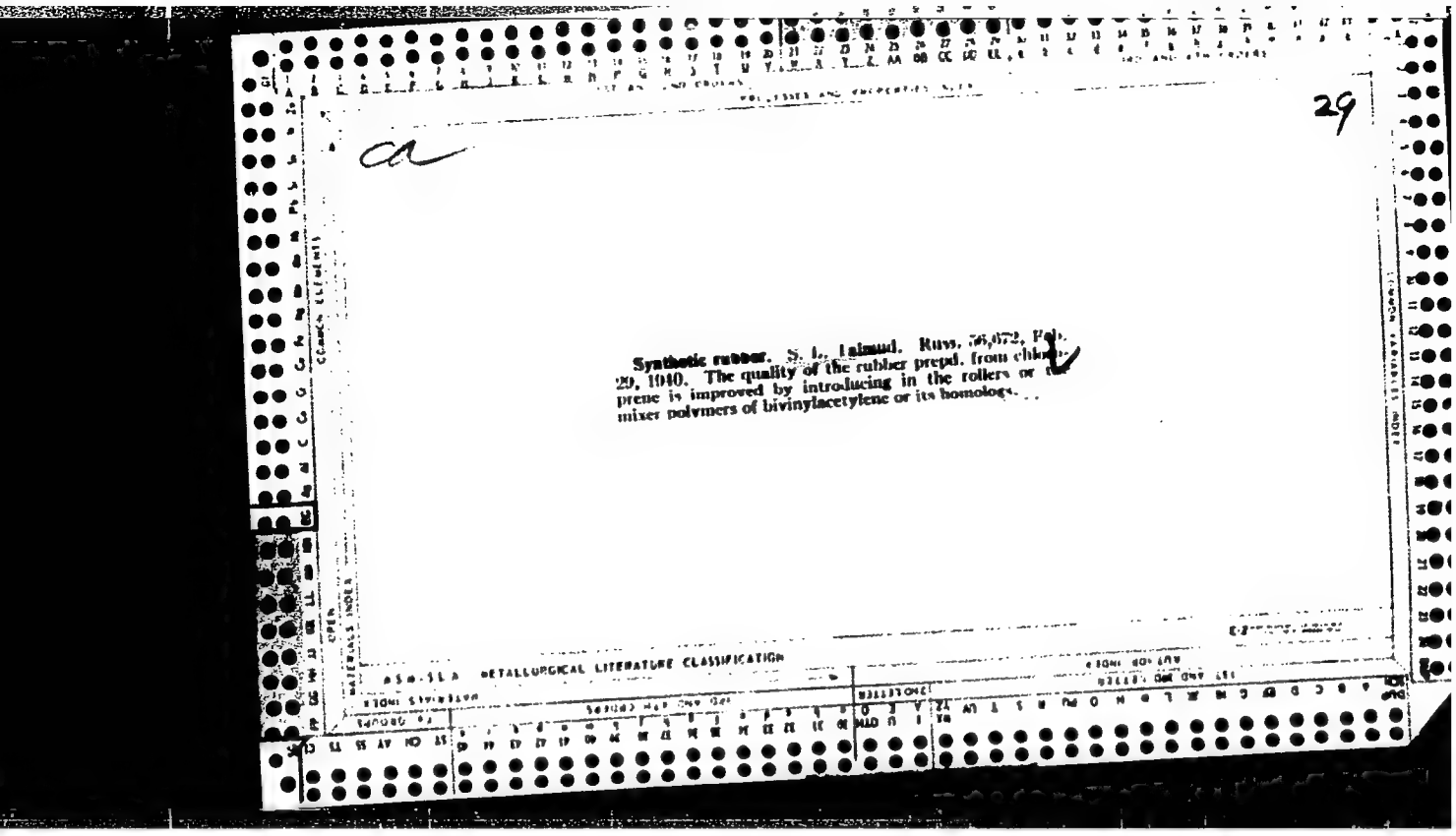
The effect of softeners on the properties of sodium-divinyl rubber. S. L. Talmud, T. I. Yurzhenko and Yu. N. Vasileva. *Caoutchouc and Rubber* (U. S. S. R.) **1938**, No. 8 9, 34-45.—Softeners from coal tar (intermediate oil, absorbent oil, anthracene oil, etc.); from by-products of petroleum pyrolysis (light oil, solvent, cooler tar and green oil) and from petroleum-cracking processes (oxidized press-distillate, unoxidized press-distillate, cracking kerosene, polymer and Winkler-Koch residues) and scrubber residues were tested in the base mixt.: rubber 100, S 1.5, accelerator 1.75, gas black 60 parts by wt., softener 0 25; cured in open steam at 3 atm. The vulcanizates were tested for tensile strength and elongation before and after aging in a Geer oven at 70° for 120 hrs. All results are plotted. The petroleum products prepd. by pyrolysis improved aging; the other products were ineffective.

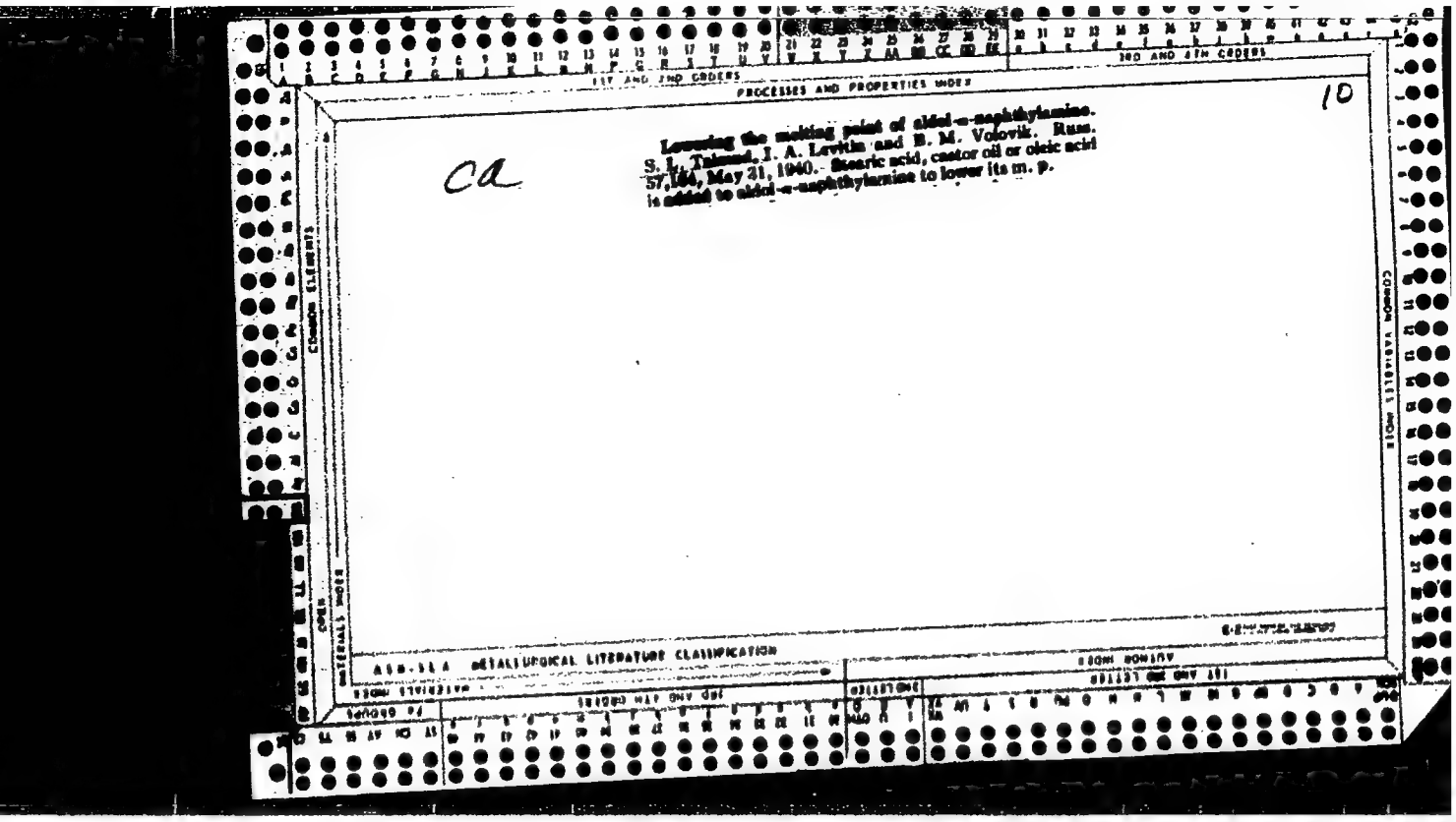
Bernard Kilberg

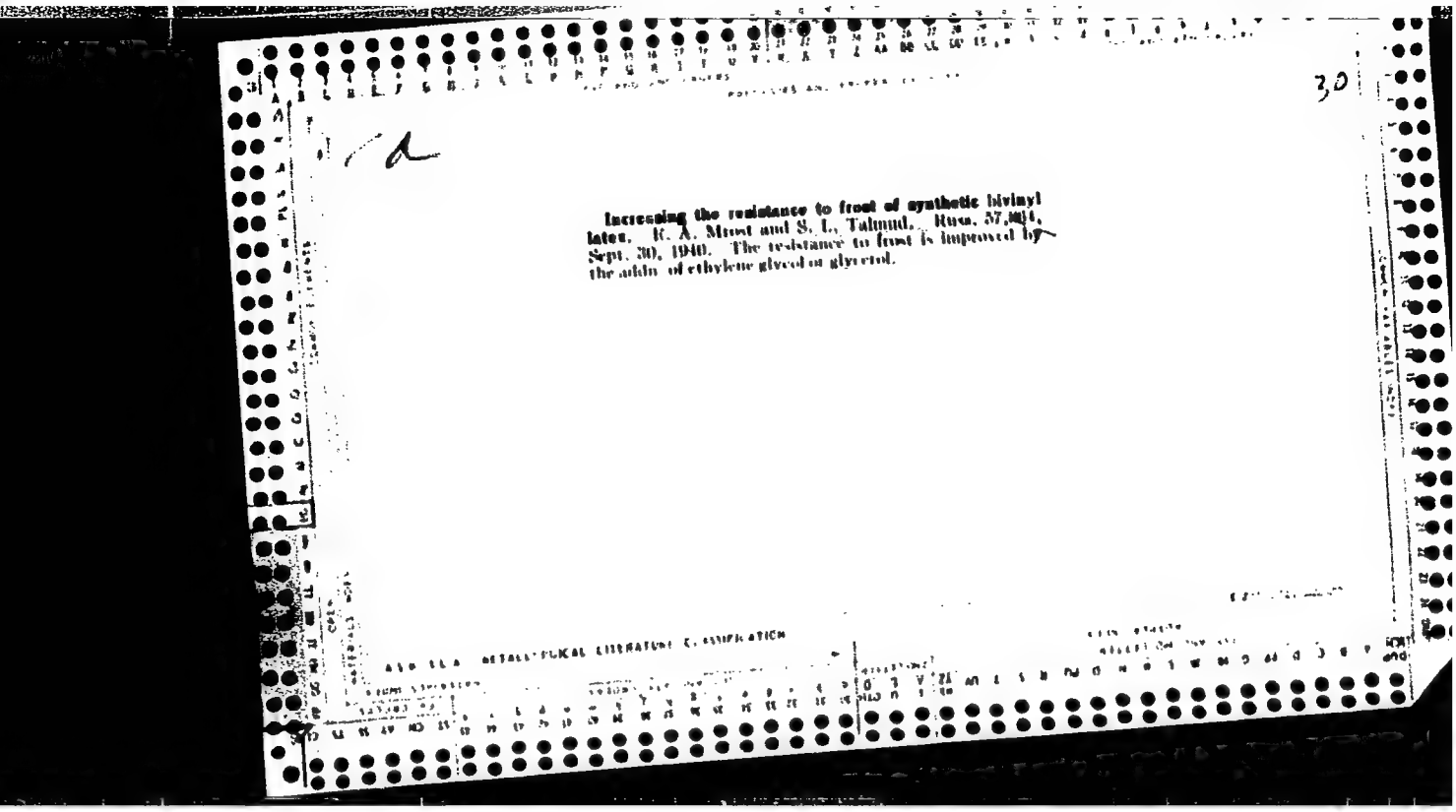


Influence of softening and dispersing agents on the properties of sodium-divinyl rubbers II. S. L. Talmud and G. I. Yurzhenko. *Caoutchouc & Rubber* (U. S. S. R.) No. 7, 15 21 (1939); cf. C. A. 33, 1818⁹. --An investigation was made of the effects of high-boiling esters, terpenes and by-products obtained from the chem. treatment of wood on the properties of sodium-divinyl rubber. The rubbers were compounded with lampblack, S, accelerator and softeners (5–25 parts per 100 parts of rubber), vulcanized and aged in a thermostat at 70° for 5 days. The compds. had a smaller effect on the swelling and sol. of the rubbers than did hydrocarbons. By increasing the percentages of the softeners (except benzyl acetate), the plasticity of the rubbers increased. Large percentages of triacetin gave high plasticities despite the insoly. of the rubber in it. The best phys.-mech. properties of the rubbers were obtained by addn. of di-Bu phthalate, di-Et phthalate and benzyl acetate (5–15 parts) and terpenyl acetate and triacetin (5 parts). All other softeners gave phys.-mech. properties below those of the control samples, which were similar to the test samples except that they contained stearic acid and Rubrax instead of softeners. All the compds. accelerated deterioration except phthalic acid esters in all proportions and ethylphenyl acetate, benzyl acetate and terpenyl acetate (25 parts). Conclusion: Small amts. of polar compds., such as high-boiling esters may be used to improve the properties of rubber.

B. Z. Kanich







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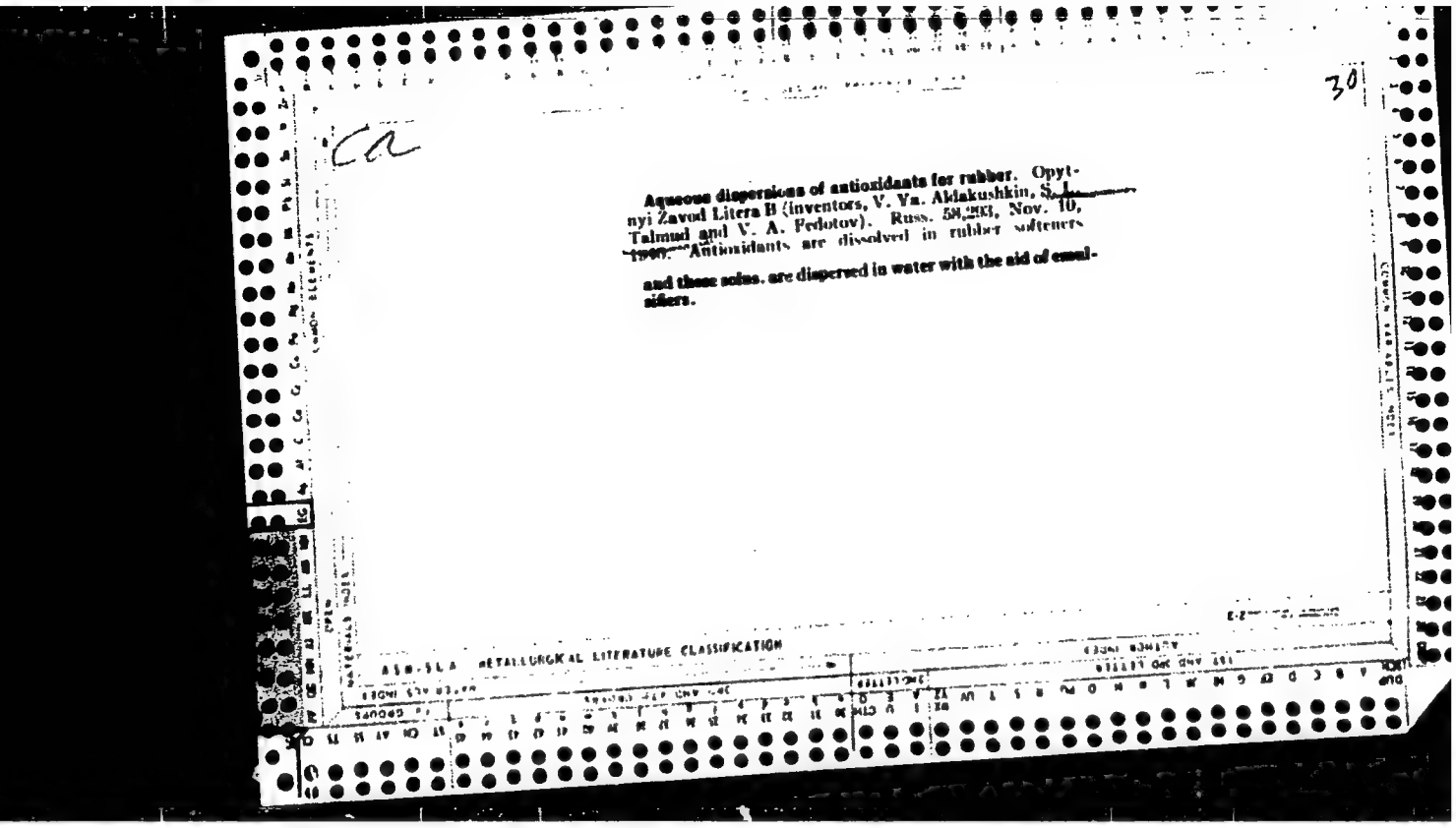
Increasing the resistance to frost of synthetic divinyl latex. K. A. Mirot and S. L. Talmud. Russ. 57,814, Sept. 30, 1940. The resistance to frost is improved by the addn. of ethylene glycol or glycerol.



Aqueous dispersions of antioxidants for rubber. Opytnyi Zavod Litera B (inventors, V. Va. Aldakushkin, S. [illegible] Talmud and V. A. Fedotov). Russ. 58,283, Nov. 10, 1940. Antioxidants are dissolved in rubber softeners and these solns. are dispersed in water with the aid of emulsifiers.

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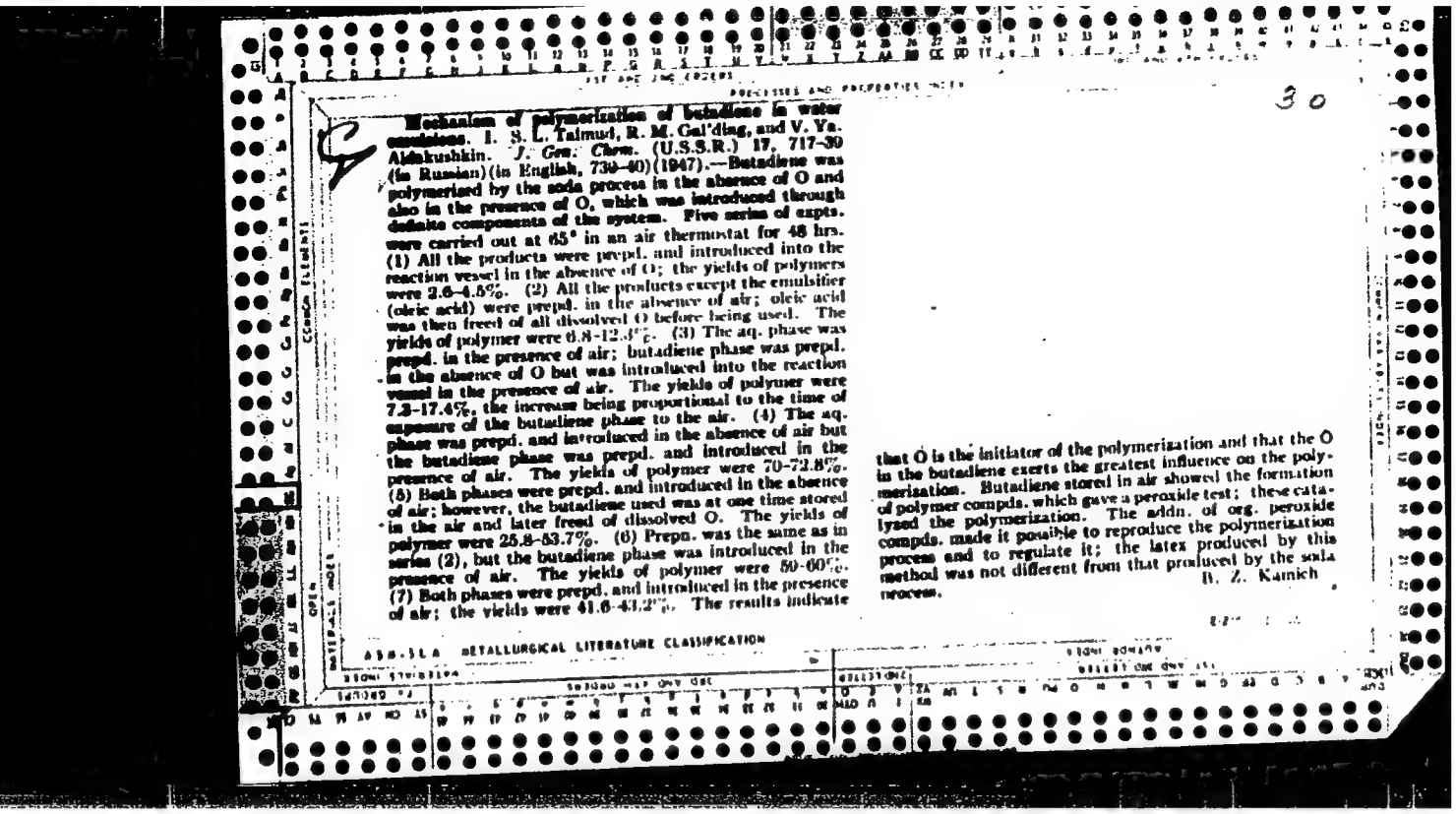
Ca



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Mechanism of polymerization of butadiene in water emulsions. I. S. L. Talmud, R. M. Gal'ding, and V. Ya. Aldakushkin. *J. Gen. Chem.* (U.S.S.R.) 17, 717–30 (in Russian) (in English, 730–40) (1947).—Butadiene was polymerized by the soda process in the absence of O and also in the presence of O, which was introduced through definite components of the system. Five series of expts. were carried out at 65° in an air thermostat for 48 hrs. (1) All the products were prepd. and introduced into the reaction vessel in the absence of O; the yields of polymers were 2.6–4.5%. (2) All the products except the emulsifier (oleic acid) were prepd. in the absence of air; oleic acid was then freed of all dissolved O before being used. The yields of polymer were 6.8–12.5%. (3) The aq. phase was prepd. in the presence of air; butadiene phase was prepd. in the absence of O but was introduced into the reaction vessel in the presence of air. The yields of polymer were 7.3–17.4%, the increase being proportional to the time of exposure of the butadiene phase to the air. (4) The aq. phase was prepd. and introduced in the absence of air but the butadiene phase was prepd. and introduced in the presence of air. The yields of polymer were 70–72.8%. (5) Both phases were prepd. and introduced in the absence of air; however, the butadiene used was at one time stored in the air and later freed of dissolved O. The yields of polymer were 25.8–53.7%. (6) Prepn. was the same as in series (2), but the butadiene phase was introduced in the presence of air. The yields of polymer were 50–60%. (7) Both phases were prepd. and introduced in the presence of air; the yields were 41.6–43.2%. The results indicate that O is the initiator of the polymerization and that the O in the butadiene exerts the greatest influence on the polymerization. Butadiene stored in air showed the formation of polymer compds. which gave a peroxide test; these catalyzed the polymerization. The addn. of org. peroxide compds. made it possible to reproduce the polymerization process and to regulate it; the latex produced by this method was not different from that produced by the soda process.

B. Z. Kamich

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

TALMUD, S. L.

USSR/Chemical Technology - Chemical Products and Their Application. Wood Chemistry Products. Cellulose and Its Manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63381

Author: Dymarchuk, N. P., Ivanyushkina, A. M., Popova, L. A., Talmud, S. L.

Institution: None

Title: Concerning the Problem of Resin Trouble in the Manufacture of Paper and Methods for Its Control

Original Periodical: Zh. prikl. khimii, 1956, 29, No 4, 610-617

Abstract: Elimination of carbonate hardness of water does not decrease the amount of resin which passes from the fiber into the liquid phase. Resin trouble at paper mills can be eliminated (in part or fully) by adding acid or alumina into the hollanders, to coagulate the resin. On using $Al_2(SO_4)_3$ as coagulant the resin emulsified in the pulp and water of paper manufacture is not completely coagulated or requires very large amounts of coagulant. Most advantageous conditions of resin coagulation in the pulp and circulating water of paper manufacture are provided by combined use of $Al_2(SO_4)_3$ and $Ca(OH)_2$.

Card 1/1

TALMUD, S. L.

4

Resin difficulties in the cellulose and paper industry. IX. Resin difficulties in the paper industry and means of overcoming them. N. P. Dymarchuk, A. M. Ivanyushkina, L. A. Popova, and S. L. Talmud. *Zhur. Prikl. Khim. U.S.S.R.* 20, 669–74 (1950) (English translation). See *C.A.* 50, 17445d.

B. M. R.

TALMUD, S.L.; TURZHETSKAYA, A.N.; KULESHOVA, A.A.

Fractional composition of short cellulose fibers. Koll. zhur. 19 no.1:118-120 Ja-F '57. (MLRA 10:4)

1. Leningradskiy tekhnologicheskiy institut im. V.M. Molotova, Kafedra fizicheskoy i kolloidnoy khimii.
(Cellulose) (Fibers)

TALMUD, S. L.

Resin difficulties in the industry of cellulose and paper. I. The location of "unwanted" resin. V. P. Dzevyatkina and S. L. Talmud. *Colloid J. U.S.S.R.* 15, 21-4(1953)(Engl. translation). See *C.A.* 47, 5116e. H. L. H.

TALMUD, S. L.

USSR

Purification of cellulose by fractionation of the fibers. S. L. Talmud, A. M. Ivanyushkina, L. A. Popova, and L. P. Vanzovicva (V. M. Molotov Technol. Inst., Leningrad). *Doklady Akad. Nauk. S.S.S.R.* 92, 397–8(1953).—The relation between the fiber length and the properties of paper and cardboard made therefrom is of great theoretical and practical interest. The fractionation of the fibers according to their length was studied, and the physicomech. and chem. properties for sulfite cellulose, before and after washing, were detd. It is shown that removal of fines yields celluloses with increased α-cellulose and decreased tarry material; flex resistance, etc., are also improved (cf. Koskinen, *C.A.* 43, 7102*). Elisabeth Barabash

TALMUD, S. L.

AID P - 915

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 6/22

Authors : Deravyagina, V. P. and Talmud, S. L.

Title : Stability of emulsified resin in the system resin-water and resin-sulfite liquor-water

Periodical : Zhur. prikl. khim. 27, no. 5, 501-505, 1954

Abstract : Lowering the temperature causes a sharp decrease in the stability of resin emulsions. Precipitation of the resin is particularly pronounced at 100-500C. Sulfite liquor has a stabilizing effect on the emulsified resin. Three tables, 1 diagram, 4 references (Russian: 1932-1953).

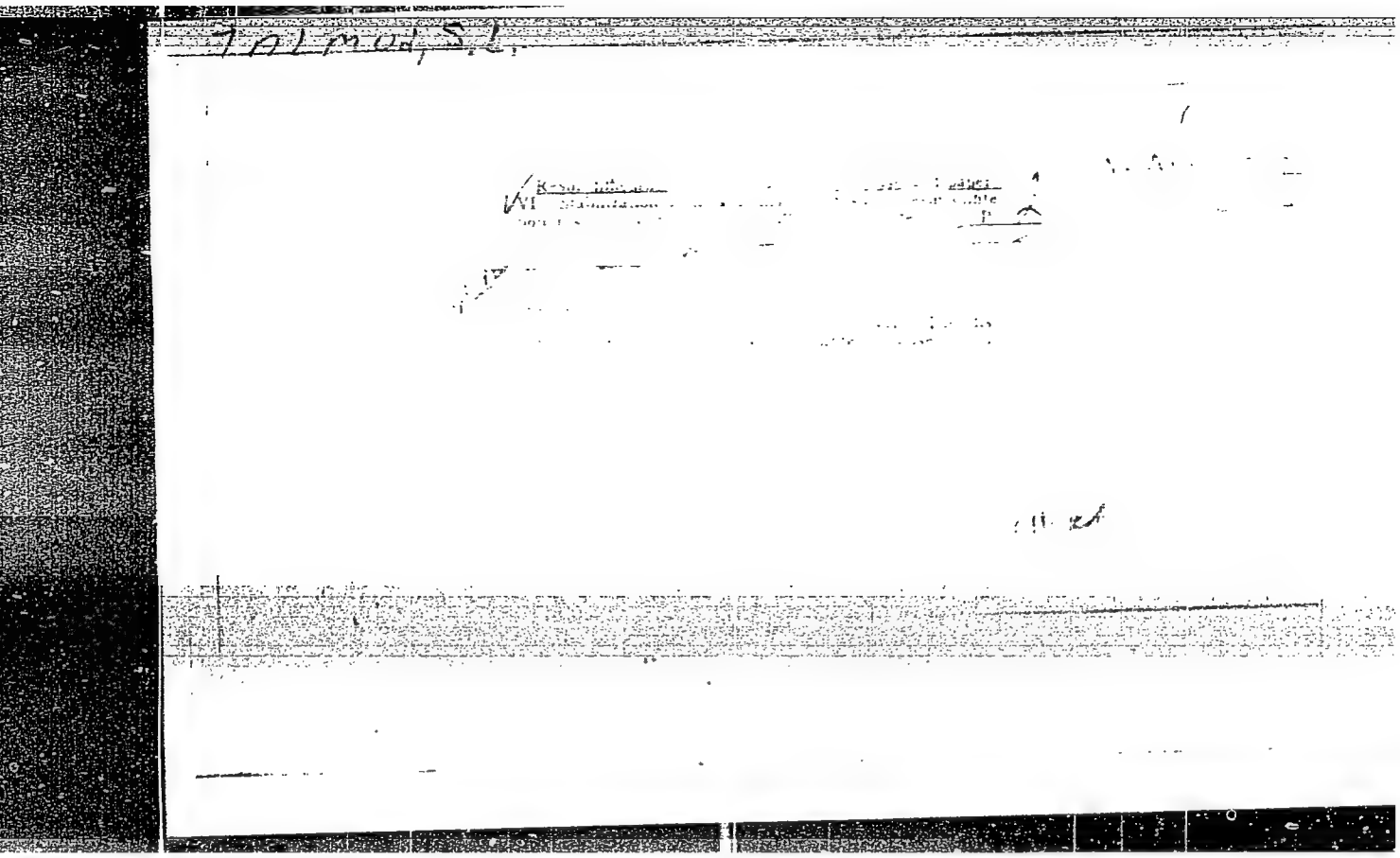
Institution : Chair of Physical and Colloidal Chemistry of the Leningrad Institute of Technology im. V. M. Molotov

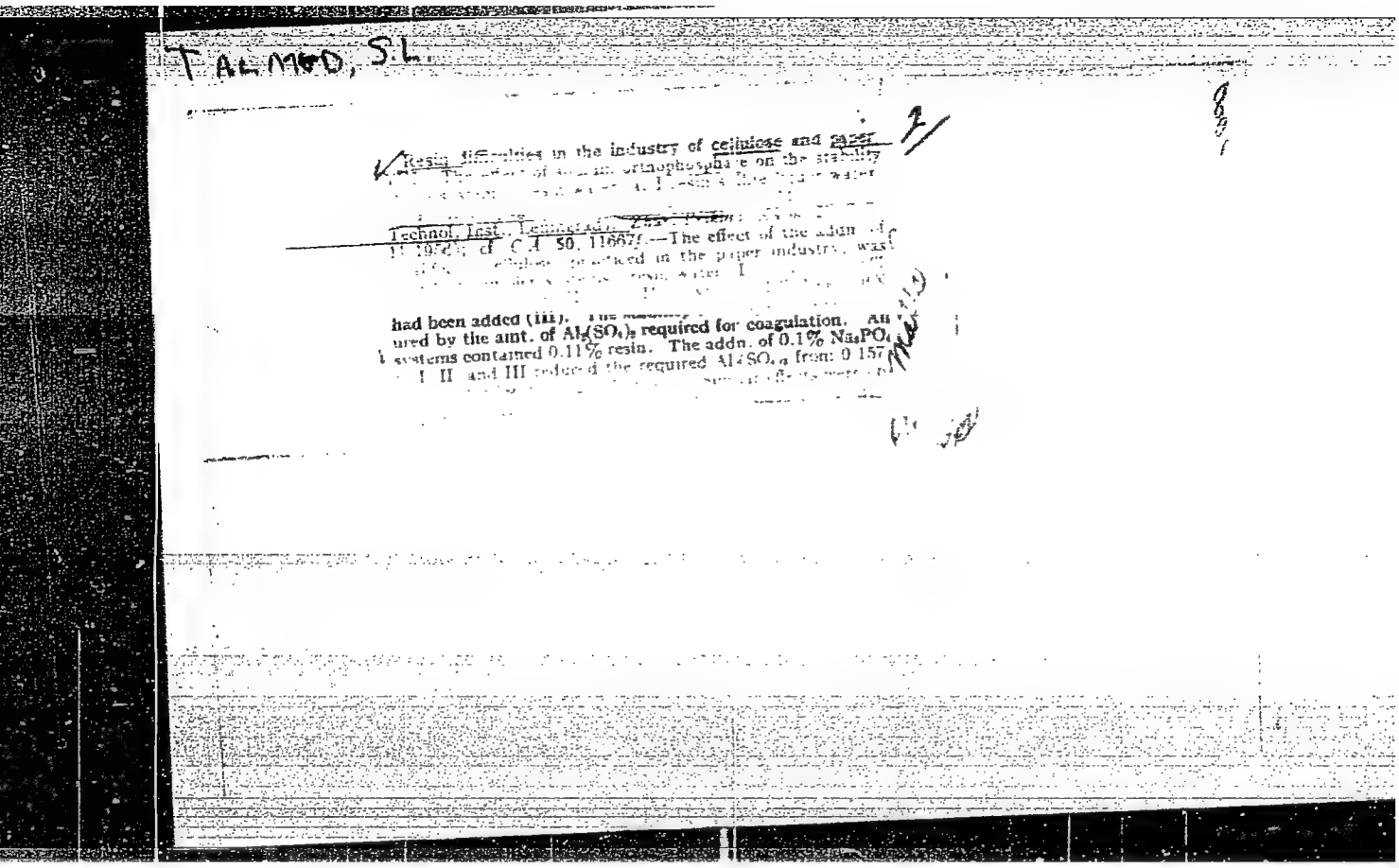
Submitted : My 6, 1953

TALMUD, S. M.

Resin difficulties in the industry of cellulose and paper. III. Coagulation of emulsified tar in the systems: tar–water, tar–sulfite liquor–water, and tar–sulfite liquor–fiber–water. V. P. Deryvyagina and S. L. Talmud (V. M. Molotov Technol. Inst., Leningrad). *Zhur. Prikład. Khim.* 27, 601–9(1954); cf. *C.A.* 48, 11057*b*.—The coagulation of tar in sulfite spent liquor systems by means of addn. of electrolytes is ineffective at the higher levels of sulfite liquor in the system. In the system tar–H_2O the coagulating ability of electrolytes is related directly to the valence of the cations; anions are ineffective. Al and Fe readily coagulate the system; Ca and Mg require higher concns. of the electrolytes, whereas Na and K do not cause complete coagulation. Hence, $Al_2(SO_4)_3$ was used in the subsequent expts. In the coagulation of tar-sulfite liquor-H_2O system the stability of the system with respect to coagulation is relatively greater and more coagulant is required even when only 0.1% sulfite liquor is present; at higher levels of liquor (0.25–1.0%) even concd. solns. of the coagulating agent are ineffective. If cellulosic fibers are also present, coagulation is possible only at the expense of very large amts. of coagulant. Hence, thorough washing of cellulose to remove the sulfite spent liquor is very important. Tars present after bleaching form aq. emulsions with much lower solid content than do tars from the initial stages; the former tars also yield emulsions with lower pH (2.85–3.22), in comparison with pH 4.28–4.2 obtaining prior to bleaching. Coagulation with combined action of $Al_2(SO_4)_3$–$Ca(OH)_2$ is usually more effective than is individual treatment. G. M. K.

→ Chem Physics & Colloid. Chem.





TALMUD, S.L.

Resin [illegible] in the industry of cellulose and paper. [illegible] orthophosphate on the stability [illegible]

Technol. Lest. [illegible] C. A. 50, 11667f.—The effect of the addn. of [illegible] produced in the paper industry was [illegible]

had been added (III). [illegible] required for coagulation. All [illegible] ured by the amt. of $Al_2(SO_4)_3$ required for coagulation. All [illegible] systems contained 0.11% resin. The addn. of 0.1% Na_3PO_4 [illegible] I, II and III reduced the required $Al_2(SO_4)_3$ from: 0.157 [illegible]

DYMARCHUK, N.P.; IVANYUSHKINA, A.M.; POPOVA, L.A.; TALMUD, S.L.

Troubles caused by resin in the manufacture of paper and methods for their control. Zhur. prikl. khim. 29 no.4:610-617 Ap '56. (MLRA 9:11)

1. Kafedra fizicheskoy i kolloidnoy khimii Leningradskogo tekhnologicheskogo instituta imeni V.M. Molotova.
(Paper industry) (Gums and resins)

YAKIMOVA, V. I.; TAIMUD, S.L.; MISHCHENKO, K. P.

"On the Interaction of Cellulose with Liquids."

report presented at the Section on Colloid Chemistry, VIII Mendeleyev Conference on General and Applied Chemistry, Moscow, 16-23 March 1959.
(Koll. Zhur. v. 21, No. 4, pp. 509-511)

MISHCHENKO, K.P.; TALMUD, S.L.; YAKIMOVA, V.I.

Reaction of cellulose with liquids. Vysokom.soed. 1 no.5: 662-669 My '59. (MIRA 12:10)

1. Leningradskiy tekhnologicheskiy institut tsellyulozno-bumazhnoy promyshlennosti.
(Cellulose) (Thermochemistry)

SOV/69-21-3-16/25

5(4)

AUTHORS: Mishchenko, K.P., Talmud, S.L. and Yakimova, V.I.

TITLE: On the Value of the Specific Surface of Cellulose

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 3, pp 330-335(USSR)

ABSTRACT: The present investigation is concerned with the selection of reliable methods permitting the determination of the value of the specific surface of cellulose in the dry and the swollen state. The authors also tried to determine the most probable value of the specific surface of standard cotton cellulose and technical wood celluloses obtained by different methods. For the determination of the specific surface of cellulose in the dry state, the standard method of nitrogen vapor adsorption at its boiling point (- 195.7°) was used. For the determination of the specific surface of cellulose in the swollen state the method of ion exchange, as proposed by V.I. Yur'yev, appeared as most reliable to the authors. The experiments confirmed the suitability of this preliminary selection.

Card 1/3

On the Value of the Specific Surface of Cellulose

The specific surface of standard cotton cellulose was found to be 16-19 m^2/g. The results obtained with the two methods are in accordance. It was further stated that swelling in water does not have an effect on the value of the specific surface of the plant fiber Wood celluloses obtained with various methods are sharply distinguished from natural fiber, as far as their internal structure is concerned. The specific surface of wood celluloses was found to be 2 - 2.5 m^2/ of celluloses in the swollen state - 100 - 200 m^2/g. The authors mention the Soviet scientists A.V. Kiselev. T. Bikkerstaff, V.I. Yur'yev (see above) and N.I. Nikitin. There are 3 graphs, 3 tables and 19 referenc 10 of which are English, 8 Soviet and 1 German.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut tsellyuloznobumazhnoy promyshlennosti, Kafedra fizicheskoy i

SOV/69-21-3-16/25

On the Value of the Specific Surface of Cellulose

kolloidnoy khimii (Leningrad Technological Institute of the Cellulose and Paper Industry, Chair of Physical and Colloid Chemistry)

SUBMITTED: 3 October 1957

Card 3/3

SOV/80-32-2-43/56

AUTHORS: Talmud, S.L., Turzhetskaya, A.N.

TITLE: A Comparative Study of the Effect of Trisodiumphosphate, Sodium Pyrophosphate and Sodium Hexametaphosphate on the Stability of the Systems Resin-Water and Resin-Sulfite Lye-Water (Sravnitel'noye izucheniye vliyaniya trinatriyfosfata, pirofosfata natriya i geksametafosfata natriya na stabil'nost' sistem smola-voda i smola-sul'fitnyy shchelok-voda)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2, pp 447-449 (USSR)

ABSTRACT: The three phosphates mentioned in the title are sensitizers for the system resin-sulfite lye-water. Trisodiumphosphate is the most efficient in this respect. The results of experiments are given in a table. They may be applied to emulsions and suspensions used in the paper production. There is 1 table and 7 references, 5 of which are Soviet, 1 American, and 1 Swedish.

Card 1/2

SOV/80-32-2-43/56

A Comparative Study of the Effect of Trisodiumphosphate, Sodium Pyrophosphate and Sodium Hexametaphosphate on the Stability of the Systems Resin-Water and Resin-Sulfite Lye-Water

ASSOCIATION: Kafedra fizicheskoy i kolloidnoy khimii Leningradskogo tekhnologicheskogo instituta (Chair of Physical and Colloidal Chemistry of the Leningrad Technological Institute)

SUBMITTED: December 3, 1957

Card 2/2

TALMUD, S.L.; TURZHETSKAYA, A.N.; VOLKOV, V.A.; IVASHKIN, G.P.; FEDOTOV, Yu.M.

Colloidal solubility of the resin from sulfite pulp and rosin. Koll. zhur. 22 no.4:477-481 Jl-Ag '60. (MIRA 13:9)

1. Leningradskiy tekhnologicheskiy institut, Kafedra fizicheskoy i kolloidnoy khimii.
(Gums and resins)

AKIM, L.Ye.; RAMDAS, T.G.; MIL'CHAKOVA, N.A.; TALMUD, S.L.

On the preparation of sulfite viscose. Zhur. prikl. khim. 33 no.8:1867-1874 Ag '60. (MIRA 13:9)

1. Leningradskiy tekhnologicheskiy institut tsellyulozno-bumazhnoy promyshlennosti.

(Viscose)

TALMUD, S.L.; ZEL'DINA, A.Ye.; GUREVICH, R.I.

Preparation of sulfite viscose. Zhur. prikl. khim. 33 no.9:2112-2118 S '60. (MIRA 13:10)

1. Leningradskiy tekhnologicheskiy institut tsellyulozno-bumazhnoy promyshlennosti.

(Viscose)

TALMUD, S.L.; TURZHETSKAYA, A.N.; VOLKOV, V.A.; FEDOTOV, Yu.M.

Colloidal solubility of resin from sulfite pulp and resin. Zhur. prikl.khim. 34 no.10:2306-2315 O '61. (MIRA 14:11)

1. Leningradskiy tekhnologicheskiy institut tsellyulozno-bumazhnoy promyshlennosti.
(Gums and resins) (Solubility)

DYMARCHUK, N.P., kand. khim. nauk; KUDRYAVTSEVA, I.V., inzh.; MISHCHENKO, K.P., doktor khim. nauk; TALMUD, S.L., kand. khim. nauk

Thermodynamics of woodpulp interaction with water and aqueous solutions of electrolytes. Report No.5: Comparing the "active" surfaces and heat of interaction with water of unbleached pulp and viscose cellulose obtained therefrom before and after fractionization. Trudy LTITSBP no.10:57-64 '62. (MIRA 16:8)

(Woodpulp) (Heat of wetting) (Electrolytes)

TAIMUD, S.L.; ZEL'DINA, A.Ye.

Production of sulfide rayon pulp. Trudy LTITSBP no.12:95-115 '64.

Determining the amount of resin dissolved in the cooking liquors of sulfite pulp production. Ibid.:126-129

(MIRA 18:8)

TALMUD, S.L., VOLKOV, V.A.

Colloidal solubility of resins from sulfite woodpulp and colophony, and its role in woodpulp and paper production. Trudy LTITSBP no.12:116-125 '64. (MIRA 18:8)

TAIMUR, S.L.; KOVALENKO, A.M.

Colloidal solubility in water of colophony and resins obtained from sulfite pulp. Trudy LTITSBP no.12:135-137 '64.

Interferometric meth d for determining the colloidal solubility in water of colophony and resins obtained from sulfite pulp. Ibid.:138-143 (MIRA 18:8)

DYMARCHUK, N.P.; KORNILOVA, N.V.; TALMUD, S.L.

Molecular weight of cellulose acetates and their fractions. Trudy LTITSBP no.12:144-149 '64. (MIRA 18:8)

TALMUD, S.L.; BAMDAS, T.G.; ZEL'DINA, A.Ye.

Obtaining sulfite viscose cellulose. Report No.1: Reactivity of cold-refi ed cellulose for viscose formation. Trudy LTITSBP no.13:16-20 '64. (MIRA 18:2)

AKIM, L.Ye.; GEYSBERG, S.M.; TALMUD, S.L.; Prinimali uchasti ye: YEL'NITSKAYA, Z.P., mladshiy nauchnyy sotrudnik; ZEL'DINA, A.Ye., mladshiy nauchnyy sotrudnik; MEL'CHAKOVA, N.A., mladshiy nauchnyy sotrudnik; BLINOV, Ye.P., starshiy laborant; BOGDANOVSKAYA, M.K., starshiy laborant

Obtaining viscose cellulose for the production of staple rayon with complete elimination of the stage of hot alkaline refining of the woodpulp. Trudy LTITSBP no.13:8-15 '64. (MIRA 18:2)

TAIMUD, S.L.; NOVOSELOV, N.P.

Obtaining sulfite viscose cellulose. Report No.2: Studying the effect of the drying temperature on the reactivity of cold-refined viscose cellulose. Trudy LTITSBP no.13:21-25 '64.
(MIRA 18:2)

TAIMUD, S.L.; GERMER, E.I.

Obtaining sulfite viscose cellulose. Report No.3: Development of optimal conditions for the cold refining of cellulose under laboratory conditions. Trudy LTITSBP no.13:26-32 '64. (MIRA 18:2)

DYMARCHUK, N.P.; PETROVSKAYA, I.D.; TALMUD, S.L.

Molecular weight of acetyl cellulose and its fraction. Izv.vys. ucheb.zav.; khim. i khim.tekh. 7 no.2:292-296 '64.
(MIRA 18:4)

1. Leningradskiy tekhnologicheskiy institut tsellyuloznobumazhnoy promyshlennosti, kafedra fizicheskoy i kolloidnoy khimii.

TAL'NIKOV, V .V.

Rozenberg, L.I. and Tal'nikov, V.V. "Experiment on control of hospitalized patients with contagious forms of syphilis in the Gor'kovskiy oblast," Nauch. zapiski Gor'k in-ta dermatologii i venerologii i Kafedry kozhno-venerich. bolezney GGMI im. Kirova, Issue 12, 1948, p. 180-88

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949

DMITRIYEVA, A.I.; SHUSHKIN, A.A.; MIRONOV, K.M.; DERBENEV, S.I.; GRANICHNOVA, Z.P.; OKUN', M.M.; MIKHAYLOVA, N.N.; ANDREYEV, V.V.; MAKEYEV, V.S.; OSIPOVA, V.M.; L'VOVYY, V.S.; SMIRNOV, G.N., nauchnyy sotr.; ZAIKIN, I.N.; TAL'NISHNIKH, G.N.; MORKOVIN, V.A.; GALAGAN, V.A.; RAZUVAYEV, A.A., red.; SOKOLOVA, V.Ye., red.; TRISHINA, L.A., tekhn. red.

[Manual on the industrial primary processing of flax] Spravochnik po zavodskoi pervichnoi obrabotke l'na. Izd.2., perer. i dop. Moskva, Rostekhizdat, 1962. 755 p. (MIRA 15:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut lubyanykh volokon (for Dmitriyeva, Shushkin, Mironov, Derbenev, Granichnova, Okun', Mikhaylova, Andreyev, Makeyev, Osipova). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda (for Smirnov). 3. Upravleniye zagotovk i pervichnoy obrabotki l'na Kalininskogo sovnarkhoza (for Zaikin, Tal'nishnikh, Morkovin, Galagan, L'vovyy).

(Flax) (Flax processing machinery)

TAL'NOV, Yu.A.

Fluorescent attachment for the type B unit for the determination of the location of tumors of the brain with radioactive iodine. Med.rad. 4 no.11:84-85 N '59. (MIRA 13:2)

1. Iz kafedry rentgenologii s meditsinskoy radiologiyey (zaveduyushchiy - dotsent M.M. Mikhaylov) Voronezhskogo meditsinskogo instituta.
(BRAIN neoplasms)
(IODINE radioactive)

24.2500

65726
SOV/139-59-2-25/30

AUTHORS: Kucherenko, Ye.T., Dem'yanenko, V.P. and Tal'nova, G.N.

TITLE: The Effect of Ion Bambardment on the Electron Emission of an Oxide-Coated Cathode

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1959, Nr 2, pp 160-168 (USSR)

ABSTRACT: An experimental study has been made of the effect of ion bombardment on the emission of a well activated oxide-coated cathode. The effect of the ion energy (in the range 100 to 600 ev) and the magnitude of the ion current (in the range 1 to 15 x 10^{-6}amp/cm^2) on the rate of decrease of the emission of an oxide-coated cathode working at a reduced temperature has been studied. The experiments were carried out using the tube shown in Fig 1. The construction of this instrument is similar to that described by Ptushinskiy (Ref 12). In Fig 1, 1 is the anode, 3 are tungsten cathodes and 2 are reflectors. The ion source 1-3 was filled with a chemically pure argon at a pressure of about 2 x 10^{-4} mm Hg. The ionization was carried out by the method described by Ardenne and Heil in Ref 13. The cathode under investigation 10 was placed immediately behind the ion

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The Effect of Ion Bombardment on the Electron Emission of an Oxide-Coated Cathode

extracting system 4-6. The electrode 8 was used to measure the change in the emission of the cathode. Special precautions were taken to remove other gases etc before the tube was filled with argon. It was found that for argon ions of up to 600 ev and ion current densities up to 15 μ amp/cm^2 noticeable fall in the emission is observed only at reduced cathode temperatures. At reduced temperature, the reduction in the emission depends strongly on the temperature, the ion energy and the ion current density. The following empirical relationships have been found

$$\alpha = \alpha_o e^{\frac{Q}{kT}}$$

and

$$I = I_o e^{-a(V_p - b)I_p t} \qquad (T = 990^\circ K)$$

where $\alpha = \left[\frac{d(\lg I/I_o)}{dt}\right]_{t=o}$; I is the current at a given time t; I_o is the initial current (t=o); V_p is the

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The Effect of Ion Bombardment on the Electron Emission of an Oxide-Coated Cathode

ion energy; I_p is the ion current and a,b,Q are constants. The corresponding graphs are shown in Fig 6, 8 and 9. There are 9 figures and 18 references, 6 of which are Soviet, 7 English, 1 German and 4 Japanese.

ASSOCIATION:Kiyevskiy gosuniversitet imeni T.G.Shevchenko (Kiyev State University imeni T.G.Shevchenko)

SUBMITTED: July 1, 1958

83269

S/109/60/005/009/016/026
E140/E455

26.2253

AUTHORS: Kucherenko, Ye.T., Dem'yanenko, V.P. and Tal'nova, G.N.

TITLE: Effects of Ion Bombardment on the Electron Emission from Oxide and Boride Cathodes

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.9, pp.1493-1499

TEXT: In continuation of work published in Ref.1, factory-produced plane cathodes 3 mm dia were tested. The electrical circuit indicated the cathode emissivity at very low temperatures both oscillographically and by a pointer instrument. The cathode was activized either by the usual method or by ion bombardment, as described in Ref.1. In studying the effects of ion bombardment on well-activized cathodes operated at very low temperature, it was found that the equilibrium emission is dependent on the ion beam parameters. Hence, the interaction of the ion with the cathode surface can hardly be attributed to simple disruption of the active layer; other elementary phenomena must be assumed to be also present. The authors consider the most probable processes to be dissociation of the oxide at the surface, connected with oxygen

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Effects of Ion Bombardment on the Electron Emission from Oxide and Boride Cathodes

evolution. This is partially confirmed by an exceedingly great increase of work function although the emissivity only decreases by a factor of 8. Further, if reactivation is neglected the logarithmic decrease of emission with time should be linear. However, in Fig.2 it is seen that this is not the case, although the initial rate of decrease agrees with the theoretical, neglecting reactivation. The studies of LaB_6 cathodes contradicted Lafferty's results (Ref.3) in that the effects of mercury ion bombardment were found to be reversible. Analysis of the present experimental material shows that LaB_6 cathodes at working temperatures are insensitive to bombardment by neon, argon and mercury ions in a range of energy up to 10 kV for argon, 3 V for neon and 2 kV for mercury, with beam currents 100 A/cm^2, 40 A/cm^2 and 25 A/cm^2 respectively. Changes in emissivity caused by ion bombardment at low temperature were reversible and it is assumed that they are connected with chemical changes in the surface state of the cathode. Acknowledgments are made to

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Effects of Ion Bombardment on the Electron Emission from Oxide and Boride Cathodes

N.D.Morgulis and student V.G.Avramenko for their assistance.
There are 8 figures and 7 references: 6 Soviet and 1 English.

SUBMITTED: November 13, 1959

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Card 3/3

BONDARCHUK, V.G., akademik, otv. red.; KOROLEVA, M.A., glav. red.; KOCHUBEY, A.D., red.; RADUL, M.M., kand. geogr. nauk, red.; BILYK, G.I., kand.biol. nauk, red.; GEYDEMAN, T.S., kand. biol. nauk, red.; ZAMORIY, P.K., doktor geol.-min. nauk, prof., red.; KUGUKALO, I.A., kand. ekon. nauk, starshiy nauchnyy stor., red.; MARINICH, A.M., dotsent, red.; MUKOMEL', I.F., kand. geogr. nauk, starshiy nauchnyy sotr., red.; PRIKHOT'KO, G.F., kand. geogr. nauk, red.; ROMANENKO, I.N., akademik, red.; TAL'NOVA, N.N., red.; BYUSHGENS, L.M., kand. geogr. nauk, retsenzent; DIDKOVSKIY, I.Ya., kand. geol.-miner. nauk, retsenzent; KEL'NER, Yu.G., kand. geogr. nauk, retsenzent; NADEZHIN, P.F., retsenzent; NIKISHOV, M.I., doktor tekhn. nauk, retsenzent; PIDOPLICHKO, I.G., retsenzent; KURDINA, C.P., red.-kartograf; RACHINSKAYA, Z.P., red.-kartograf; SLEPTSOVA, L.M., redaktor-kartograf.

[Atlas of the Ukrainian S.S.R. and the Moldavian S.S.R.] Atlas Ukrainskoi SSR i Moldavskoi SSR. Moskva, 1962. vi p. 90 p. of col.maps. (MIRA 15:5)

(Continued on next card)

BONDARCHUK, V.G.—— (continued) Card 2.

1. Russia (1923- U.S.S.R.)Glavnoye upravleniye geodezii i kartografii. 2. Akademiya nauk USSR, direktor Instituta geologicheskikh nauk Akademii nauk USSR (for Bondarchuk). 3. Nachal'nik kartosostavitel'skogo tsekha fabriki No.1 (for Koroleva). 4. Zamestitel' predsedatelya Gosudarstvennogo planovogo komiteta Soveta Ministrov USSR (for Kochubey). 5. Direktor Instituta ekonomiki Akademii nauk Moldavskoy SSR (for Radul). 6. Zamestitel' direktora po nauchnoy rabote Instituta botaniki Akademii nauk USSR (for Bilyk). 7. Direktor Botanicheskogo sada Akademii nauk Moldavskoy SSR (for Geydeman). 8. Zaveduyushchiy kafedroy geomorfologii Kiyevskogo gosudarstvennogo universiteta (for Zamoriy). 9. Institut ekonomiki Akademii nauk USSR (for Kugukalo). 10. Zaveduyushchiy kafedroy fizicheskoy geografii Kievskogo gosudarstvennogo universiteta (for Marinich). 11. Ukrainskiy nauchno-issledovatel'skiy institut ekonomiki i organizatsii sel'skogo khozyaystva (for Mukomel'). 12. Direktor Ukrainskogo nauchno-issledovatel'skogo gidrometeorologicheskogo instituta (for Prikhot'ko).

(Continued on next card)

BONDARCHUK, V.G.---(continued) Card 3.

13. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta ekonomiki i organizatsii sel'skogo khozyaystva, Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Romanenko). 14. Direktor fabriki No.1 (for Tal'nova). 15. Chlen-korrespondent Akademii nauk USSR (for Pidoplichko).

(Ukraine--Maps) (Moldavia--Maps)

TALOBR, Zh. [Talobre, J.]; KIREYEV, M.D., kand.tekhn.nauk [translator]; KHODAKOV, I.K., red.izd-va; IL'INSKAYA, G.M., tekhn.red.

[Mechanics of rocks] Mekhanika gornykh porod. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 429 p. (MIRA 14:4)
Translation from the French.
(Rocks)